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Challenging Time in DOPMA

Flexible and Contemporary Military Officer Management

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Preface

The U.S. military is far better trained, better educated, more competent, and more professional than any current or potential rival, which provides an asymmetric advantage in military operations. To maximize this advantage, military and civilian leaders in the Department of Defense (DoD) are examining new policies that would generate higher returns on investment in military personnel and enhance professional development. Those policies would enable officers to serve longer in certain assignments, to have longer careers, and to have more-diverse career paths. The Defense Officer Personnel Management Act of 1980 (DOPMA) that codified military officer management is based on fixed career- and promotion-time parameters that make change challenging.

Recent initiatives reflect the growing recognition that the laws, policies, and practices governing military personnel management today will not meet the needs of the future operating environment. The United States no longer has a cold war enemy but still has a cold war–era personnel system designed largely to develop and apply military personnel to meet a known and relatively unchanging threat.

A shift to a more flexible approach to personnel management is under way, led by the creation in 2005 of the National Security Personnel System for DoD civilians. The 2004 National Defense Authorization Act directed the Secretary of Defense to create a system that is "flexible" and "contemporary." That legislation was the culmination of two decades of demonstration projects that tested alternative management policies for civilian DoD personnel.

This monograph focuses on changes to law, policy, and practice that govern promotions for military officers to achieve similar objectives. Closely related assignment and retirement policies are also addressed. As such, it should be of interest to decisionmakers, military personnel managers, and officers themselves.

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Background

The RAND National Defense Research Institute (NDRI) has studied changes to law and policy that would support the Secretary of Defense's desire to have officers serve longer in their assignments and in their careers. NDRI began by studying how assignments and careers could be lengthened for general and flag officers (grade O-7 and above).[1] A key finding was that some, but not all, jobs and careers could be lengthened without significantly affecting promotion opportunity through the grade of O-9 (lieutenant general or vice admiral). The second phase of the study, the findings of which are presented in this monograph, examines how assignments and careers could be lengthened for active-duty officers in grades O-1 through O-6. The general and flag officer phase of the study focused on which jobs to lengthen and for which officers; the current phase of the study focuses on how to enable officers to have longer assignments and longer careers through changes in law and policy.

Many of the laws and policies that govern officer career management (commonly, if somewhat inaccurately, referred to as DOPMA, after the Defense Officer Personnel Management Act of 1980) have been in place for at least the past quarter-century. The Defense Officer Personnel Management Act was more evolutionary than revolutionary. It built upon legislation from the 1940s and 1950s, and some of

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[1] Margaret C. Harrell, Harry J. Thie, Peter Schirmer, and Kevin Brancato, *Aligning the Stars: Improvements to General and Flag Officer Management,* Santa Monica, Calif.: RAND Corporation, MR-1712-OSD, 2004.

its key sections incorporated ideas and policies that had been around since the 1960s or even earlier (up-or-out, for example, has been a Navy policy since the beginning of the 20th century, and mandatory retirement at age 62 dates back to the Civil War). DOPMA has served the needs of the services reasonably well, but there is a growing sense that the current personnel-management system may not meet the requirements of the future operating environment. One of the criticisms of the DOPMA system is that it does not allow for much variety in the career paths of most officers. Under the DOPMA system, decisions about assignments, promotions, and retirements are driven by time-based laws and policies that are applied more or less uniformly across the services. As an alternative to the current time-based system, the emerging focus in defense planning and in the services' human capital strategies is on knowledge, skills, and abilities—i.e., officer competencies—as a basis for career management. The focus on managing officer competencies could require a system with greater flexibility that would enable certain officers to have longer assignments and longer careers.

Although the expectation by the Office of the Secretary of Defense is that greater flexibility in career management could improve organizational outcomes and individual performance, it is beyond the scope of this research to forecast or predict such effects. We do not attempt to determine optimal assignment or career lengths, nor do we recommend specific assignments to be lengthened or identify types of officers—e.g., specialists, fast-trackers, due-course officers (those whose careers follow typical time lines)—who should have longer careers. We focus on changes to law and policy that would enable the desired outcomes of a future officer career-management system, especially longer assignments and longer careers.

Modeling Career Path Alternatives

We examined the outcomes of extending assignment and career lengths in a time-based system and compared them with the outcomes of extending assignment and career lengths in a competency-based system. To make that comparison, we modeled the flow of officers through the

system in a variety of scenarios. We used the current system as a baseline, and then we examined various scenarios that extend assignments and careers for specific communities within the military services: surface warfare officers in the Navy, infantry officers in the Army, space and missile officers in the Air Force, and Marine officers who are not aviators.

For each of these communities, we produced baseline results using a set of inputs specific to each community and the laws and policies (or "business rules") that govern the officer career-management system. We refer to these inputs as our Baseline Scenario. We then changed some of the business rules and compared the new model results with the results of the Baseline Scenario and with other scenarios, as was appropriate. Table S.1 lists the various alternatives. The Baseline Scenario and Scenarios 1, 2, and 3 use the DOPMA time-based rules; Scenarios 4, 5, and 6 apply a more flexible set of promotion policies that allow for more-varied time to promotion.

Trade-Offs Between Breadth and Depth in Different Systems

The DOPMA system is a time-based management system with relatively fixed career "flow points." The fixed flow points compel a trade-off between the length and the number of assignments, or between

Table S.1
Comparison of Model Scenarios

	Scenario						
	Baseline	**1**	**2**	**3**	**4**	**5**	**6**
Assignment length	Status quo	Longer	Longer	Longer	Status quo	Longer	Longer
Career length	Status quo	Status quo	Longer	Longer	Status quo	Status quo	Longer
Time to promotion	Status quo	Status quo	Status quo	Longer	More varied	More varied	More varied

what could be called officers' depth and breadth of experience. If officers have longer assignments (greater depth), they will have fewer assignments within a fixed period of time (less breadth). Lengthening careers will allow officers to regain some lost breadth by giving them more time for additional assignments. However, unless promotion timing also changes, lengthening careers provides additional time only in the grade from which an officer separates or retires; officers will still have fewer assignments until they reach their final grade. These officers, therefore, may not bring the appropriate breadth of experience to key assignments throughout their career. Delaying promotion timing allows officers to have additional assignments mid-career, but, under DOPMA, it is difficult and cumbersome to delay promotions selectively for some officers but not for others.

A more flexible system would allow for longer careers and would have wider promotion zones. Conceptually, such a system manages careers according to competencies rather than according to time. The key distinctions between a competency-based system and today's time-based system are the rules governing eligibility for promotion: Accumulated experience gained through jobs, education, and training would make officers eligible for promotion. There would be no primary promotion zone, based on seniority, from which most officers would be selected. The services and service communities would determine the experiences that would lead to promotion eligibility; presumably, those criteria would reflect current career guidelines. We would expect to see "due-course" promotions distributed over multiple years for a single grade and perhaps even some overlap in the timing of promotions to different grades. While there would be greater variation in outcomes for individuals, average outcomes would probably resemble current average outcomes if promotion eligibility criteria reflect current career guidelines.

A competency-based system can accommodate longer assignments for some officers, but if a large number of assignments are lengthened, the amount of time required to accumulate work experience that leads to promotion eligibility could increase significantly. As a result, either careers must also be lengthened or the promotion eligibility criteria must be changed. The latter option is similar to what would happen

with longer assignments in a time-based system: With longer assignments and fixed promotion timing, officers would have fewer assignments in each grade. A competency-based system can also accommodate additional assignments or education for some officers who may be at a disadvantage relative to their peers if they have such assignments in the current system.

Implementing a Competency-Based Career-Management System

Making aspects of DOPMA more flexible to allow for officer career management on the basis of competency rather than time will not require drastic changes to law or policy. The key phrase in Title 10 of the U.S. Code that compels a time-based promotion system is "failed of selection," which is applied to officers not selected for promotion while in the primary promotion zone with their peers. Among other things, the phrase has implications for how promotion zones are constructed and how officers are involuntarily separated or retired. Even without changing Title 10, DoD could provide the services with more flexibility in managing officer promotions by rewriting its directives and instructions to omit references to desirable promotion timing and further clarify that it is acceptable policy for competitive categories to have different promotion timing and promotion opportunity. This would be only a partial solution, because it does nothing to address career lengths and allows only for greater variation across competitive categories, but not within them.

The greatest amount of work in implementing a competency-based system will fall to the services and the service communities. Greater flexibility does not mean greater ease of management; the opposite is probably true. The biggest challenge will be in identifying the knowledge, skills, and abilities (KSAs) that are conferred and required by each job, school, and training event. This is not a one-time effort, particularly on the demand side. Changes in the geopolitical environment, in technology, and in society have a continual influence on individual competencies that generate the capabilities of military

organizations. Although we modeled a system in which officers are assumed to develop competencies by virtue of their having had particular assignments, a complementary or alternative policy would be to individually assess officers to determine whether the KSAs have been conferred or developed to the desired level. Assessments could differentiate individuals not only by professional experience but also by the KSAs actually gained or improved through that experience.

Implementation of a competency-based management system may not result in significantly different outcomes for many officers, should the services and service communities believe that current outcomes yield the right types and mixes of competencies for certain groups of officers. The extent to which outcomes vary across individuals or average outcomes shift depends in part on whether assignments and careers are lengthened and by how much. Variation of outcomes might also depend on whether individual assessments are used to determine whether individuals have desired competencies.

Fairness and credibility among the officer corps are the *sine qua non* of a new career-management system. Officers must believe that they are being treated fairly and that the new system produces officers who are at least as effective and credible as those produced by the old system. Explicit and implicit contracts—the terms of the "deal" between officers and the institutions that they serve—may need to change as more information about the changing environment and about officer behaviors is known. However, one virtue of the proposed personnel-management system is its flexibility. Rather than specifying a single prescription for officer management as most previous systems have done, we suggest creating boundaries within which managers can reshape the deal as needed to adjust to changing environments and changing needs. We would also argue for a gradual implementation of many of these practices over a period of years, so that the deal can be viewed as evolving and designed to meet the needs of both officers and their organizations and institutions. Gradual implementation is also recommended, because what is known today about required competencies, particularly for more-senior positions, is often based on subjective assessments and not necessarily on a more systematic evaluation of competencies, how frequently those competencies are employed in

an assignment, and the importance of those competencies to job performance. As the system gradually evolves, so, too, should the services' ability to manage officers' competencies to meet the diverse operational needs of the 21st century.

Acknowledgments

Acronyms and Abbreviations

Bde	brigade
Bn	battalion
BTZ	below the zone
BZ	below-zone (promotions)
CC	commander
CGSC	Command and General Staff College
CO	commander
CONUS	continental United States
CTC	combat training center
DO	director of operations
DoD	Department of Defense
DoDI	Department of Defense Instruction
DOPMA	Defense Officer Personnel Management Act
FMF	Fleet Marine Force
G-3	plans officer
GNA	Goldwater-Nichols Act
HQ	headquarters

HQMC	Marine Corps Headquarters
IT	information technology
KSA	knowledge, skills, and ability
KSAO	knowledge, skills, abilities, and other
KSAT	knowledge, skills, abilities, and tools
MAJCOM	Major Command
MEF	Marine Expeditionary Force
MEU	Marine Expeditionary Unit
MOS	Military Occupational Specialty
MRD	mandatory retirement date
NDRI	National Defense Research Institute
OSD	Office of the Secretary of Defense
QDR	Quadrennial Defense Review
PCS	permanent change of station
PME	professional military education
RSCO	reserve station commanding officer
S-3	plans officer
SIG	service-in-grade
SKE	skills, knowledge, and experience
SQ	squadron
SWO	surface warfare officer
TIA	time in assignment
TIS	time in service
XO	executive officer

CHAPTER ONE
Introduction

The military services and the Department of Defense (DoD) devote considerable time, effort, and attention to the development and utilization of their people. The services typically focus on managing military and civilian personnel within the constraints of law and DoD policy. They might consider longer-term policies not limited by today's constraints, but changes to federal law and DoD policy regarding personnel management normally fall beyond the services' planning purview. In contrast, the Office of the Secretary of Defense (OSD) takes a broader perspective and has the responsibility to consider alternatives to current law and policy that affect all of the services.

Why might alternatives to current law and policy regarding military personnel management be needed? The growing operational demands placed upon the military have significant implications for military personnel. The 2006 Quadrennial Defense Review (QDR) calls for DoD to "foster innovation by encouraging career patterns that develop the unique skills needed to meet new missions, such as irregular warfare."[1] This mandate can be traced to the previous QDR, which cited the "growing range of capabilities" of potential adversaries and the "variety of potential scenarios" besides conventional force-on-force warfare in which the military will have to operate.[2] The 2001 QDR averred that the military and civilian personnel systems "merit

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[1] United States Department of Defense, *Quadrennial Defense Review Report*, Washington, D.C.: DoD, February 6, 2006, p. 80.

[2] United States Department of Defense, *Quadrennial Defense Review Report*, Washington, D.C.: DoD, September 30, 2001, p. 17.

serious examination."[3] In response, the Office of the Under Secretary of Defense for Personnel and Readiness identified questions to be addressed regarding the management of military personnel, including the following:[4]

- How do we develop a system that facilitates cross-functional broadening for leadership development and succession planning needs?

- How should military officer force management change to better balance breadth of experience (generalization) with depth of experience (specialization)? Should we "slow down" assignments to ensure more time-on-station?

Current law, policy, and practice create a system designed around fixed, short tenures, promotion timing, and promotion opportunity. The system is relatively simple to manage and provides uniformity of outcomes and opportunities across services and skills. But the desired outcomes of a future officer management system differ from the outcomes the current system can deliver. Not everyone would agree with the list below, but it emerges from published comments and RAND's discussions with senior decisionmakers, service personnel managers, representatives of organizations that officers serve, and officers themselves. The future officer career-management system should enable the following outcomes:

- Longer job tenure
- Longer careers
- More geographic stability for military members and their families
- Comparable promotion opportunity
- Joint and service development
- More individualized development

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[3] United States Department of Defense, 2001, p. 63.

[4] Office of the Under Secretary of Defense (Personnel & Readiness), *Military Personnel Human Resources Strategic Plan*, Washington, D.C.: DoD, 2002, Appendix C.

- More choice for individuals
- Greater emphasis on competencies
- Greater emphasis on experience
- Alternative career paths
- Greater organizational stability
- More flexibility in career management
- Greater ability to accommodate breaks in service
- Greater ability to take advantage of skills learned in the private sector.

Since 2001, the RAND National Defense Research Institute (NDRI) has studied changes to law and policy that would support the Secretary of Defense's interest in the first two outcomes listed above—longer job tenure and longer careers. NDRI began by studying how assignments and careers could be lengthened for general and flag officers (grades O-7 and above).[5] We found that some, but not all, assignments and careers could be lengthened without significantly affecting promotion opportunity through the grade of O-9 (lieutenant general or vice admiral). We presented criteria for identifying assignments that are good candidates for being lengthened. Most of the recommendations could be implemented by changing DoD and service policy, with only minor implications for federal law.[6] The second phase of the study, the findings of which are presented in this monograph, examines career management of active-duty officers in grades below O-7. This second phase addresses longer assignments and careers and other desired outcomes that are of concern to senior OSD leaders—geographical stability, promotion opportunity, officer development, emphasis on experience, and flexibility. However, it is beyond the scope of this research to forecast impacts on organizational outcomes or individual performance. We do not attempt to determine optimal assignment or career

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[5] Margaret C. Harrell, Harry J. Thie, Peter Schirmer, and Kevin Brancato, *Aligning the Stars: Improvements to General and Flag Officer Management*, Santa Monica, Calif.: RAND Corporation, MR-1712-OSD, 2004.

[6] Changes in compensation to ensure that those with longer service would not be penalized in terms of pay would require changing the law.

lengths, nor do we recommend specific assignments to be lengthened or types of officers—e.g., specialists, fast-trackers, due-course officers (those whose careers follow typical time lines)—who should have longer careers.[7] We focus on changes to law and policy that would enable the desired outcomes of a future officer career-management system.[8]

Although the constraints of the current system limit flexibility, the services are implementing policies that could result in longer assignments. Some assignments have already been extended to meet the requirements of the Global War on Terror. As a long-term policy apart from the imperatives of the present day, the Army plans to implement unit stabilization for personnel, which would result in longer operational assignments for its officers. The Navy recently introduced a SWO (surface warfare officer) Specialty Career Path that will enable mid-career officers to enter specialist tracks that offer greater career stability. Changes to law and policy that enable longer assignments and careers might therefore appeal not only to OSD but also to the services and to officers.

Allowing greater variation in the timing of due-course officer promotions could support the recent service initiatives and help generate the outcomes that senior OSD leaders desire. Like assignments, promotions constitute an important aspect of officer development and career management. We show in this monograph how variation in promotion

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[7] Previous work by RAND for OSD has addressed these issues. *A Future Officer Career Management System: An Objectives-Based Design* (Thie et al., 2001) and *Future Career Management Systems for U.S. Military Officers* (Thie et al., 1994) compared several alternatives for assignment lengths, career lengths, and promotion timing, among other things. *Aligning the Stars: Improvements to General and Flag Officer Management* (Harrell et al., 2004) suggested how assignments and careers could be extended for general and flag officers. *New Paths to Success: Determining Career Alternatives for Field-Grade Officers* (Schirmer et al., 2004) suggested how careers could be extended and mandatory retirement decisions decentralized for field-grade officers.

[8] Many factors affect assignment and career lengths. Federal law specifies the length of joint duty assignments, and OSD can instruct the services to lengthen other assignments. However, the services, not Congress or OSD, control the length of most assignments for officers below O-7. Federal law also sets maximum career lengths, but the decision to retire or otherwise leave active duty is made by the individual or made implicitly by a statutory board when an officer is not selected for promotion.

timing logically fits with the goals of OSD. We will also discuss the changes in federal law and DoD policy necessary to allow more-variable promotion timing.

A Competency-Based Career-Management System

Longer assignments, longer careers, and more-variable promotion timing all contribute to a more flexible officer career-management system. In principle, flexibility seems desirable, but when faced with the challenges of implementation, one is likely to seek a more practical rationale for changing the existing system. The rationale is that enabling officers to serve longer in certain assignments, to have longer careers, and to have more-variable promotion timing would support development of a competency-based career management system. Such a system complements the new focus of defense planning and the services' emerging human capital strategies.

A human capital strategy links mission and goals that result from capability-based defense planning to personnel policies via competencies or KSAs (knowledge, skills, and abilities). For example, the Navy is in the process of conducting a job analysis that would define the KSAs associated with each officer billet. It has already done so for enlisted and civilian jobs. Through the billets, KSAs will be associated with naval and joint capabilities and will form the basis for shaping career paths and individual development plans. Similarly, the 2004 Air Force Personnel Strategic Plan recognizes the need for "linking force requirements to the personnel competencies necessary to satisfy them."[9]

The services acknowledge and even embrace the idea that officers will develop different competencies through different experiences. The Navy expects its KSA studies to lay the foundation for multiple career paths; the Chief of Staff of the Army has instructed the Army's Human Resources Command to make the Army's officer personnel

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[9]   United States Department of the Air Force, *Personnel Strategic Plan Fiscal Years 2004–2009,* no date.

management system less prescriptive, with broad career paths that provide officers with a range of competencies.

If certain competencies require longer assignments or a greater number of assignments throughout a career, officers cannot easily develop those competencies without putting themselves at a disadvantage to their peers. Current laws and policies do not accommodate less prescriptive, longer, or more-varied careers, particularly within the same competitive category or career field. Although the services decide who gets which assignment and who gets promoted, the law mandates that everyone gets promoted at about the same time, and DoD determines what the "desirable" promotion timing should be. Those who do not get promoted in lockstep with their peers (even if they are promoted later) are *de jure* failures.[10] Due to legal constraints and incentives (both positive and negative), careers end at about the same time, too. Such are the outcomes of today's time-based career management system. This monograph explores the outcomes of a competency-based career-management system.

Terms Used in This Monograph

We use terms that may cause some confusion if they are not clarified, because they mean different things to different people. The first such term is "competency." We use that term to refer to the KSAs of individual officers. The acronym KSA itself is shorthand for a variety of characteristics that make a person qualified and competent to meet the requirements for a particular job. Some characteristics are enduring, while others change. Variations on KSA include KSAO (knowledge, skills, abilities, and other); KSAT (knowledge, skills, abilities, and tools); and SKE (skills, knowledge, and experience).[11]

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[10] United States Code, Title 10, Section 627, "Failure of Selection for Promotion," states that any officer below the grade of O-6 who is in or above the promotion zone for his grade and competitive category and is considered but not selected for promotion is "considered to have failed of selection for promotion."

[11] The Air Force uses SKE in its Personnel Strategic Plan.

The word "competency" has a variety of meanings within DoD. As the Air Force and Army use the word, both individuals and organizations possess competencies. The 2004 Air Force Personnel Strategic Plan discusses the need to link "force requirements to the *personnel* competencies necessary to satisfy them [emphasis added]," but the Air Force has also identified three "core competencies" that apply to the service itself, not to individuals.[12] The Army's 2004 Posture Statement states that the Army as an organization has two core competencies; the Army tends to associate competencies with people only in reference to leadership competencies.[13] In the Navy's terminology, a *competency* is the demonstrable performance of a task that supports an organizational capability. An officer's KSATs enable him to perform a task. Similarly, the 2006 QDR calls for a human capital strategy that is "based on . . . the competencies U.S. forces require and the performance standards to which they must be developed." Our use of the term is most similar to that used by the Navy and the 2006 QDR.

A second term to clarify is "assignment." In the military, an assignment could be to an educational or training billet; an assignment to a location or to a unit or organization could include multiple jobs, in the sense that an officer changes duties and billets. Our definition of an *assignment* is narrow: It is the time an officer spends in a single job with a single set of work-related responsibilities. Permanent changes of station (PCS) moves to fill a student billet at a school are not included in our use of the term "assignment." Although PCS moves to a school are assignments in military parlance, OSD's focus is on work-related, not school-related, assignments. OSD wants to increase the amount of time officers spend in a billet performing a particular set of work-related duties. When appropriate, we discuss time spent in school separately from discussion of time spent in assignments.

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[12] United States Department of the Air Force, no date.

[13] R. L. Brownlee and P. J. Schoomaker, *A Statement on the Posture of the United States Army 2004*, Washington, D.C.: Office of the Chief of Staff, U.S. Army, 2004.

Organization of This Monograph

The next chapter describes current laws and related policies collectively referred to as "DOPMA" (after the Defense Officer Personnel Management Act), and it demonstrates how time-based rules govern officer career management. In Chapter Three, we explore the effects of extending assignments and careers in a time-based system. In Chapter Four, we make the case for a more flexible system based on competencies (as opposed to one based on time) for officer career management. Chapter Five addresses implementation of a competency-based system, with issues ranging from the level of federal law down to individual officer behavior. Chapter Six offers our observations and conclusions.

DOPMA and the Time-Based Management System

In this chapter, we explain how current laws and policies (commonly, if somewhat inaccurately, referred to as DOPMA) create a time-based officer management system. We also show how that system limits the services' ability to establish less prescriptive, longer, or more-varied careers. In the following chapters, our baseline modeling cases examine outcomes of officer career management under the DOPMA system and modifications to the system. Our final recommendations offer alternatives to the DOPMA system that could help the military services establish a competency-based career management system.

Defining DOPMA

Some confusion exists over what DOPMA really is and what aspects of DOPMA are federal law and what are DoD policy. The eponymous Defense Officer Personnel Management Act, or DOPMA, was passed in 1980 and is codified in Titles 10 and 37 of the U.S. Code. Although the basic framework remains in place today, many of its sections have been amended or repealed during the past 25 years. Moreover, earlier versions of DOPMA (it also passed in the House in 1976 and 1978) contained some precepts that were not in the 1980 law but ended up in

the accompanying House report conveying congressional intent. Some of those precepts later became DoD policy rather than federal law.[1]

The relevant sections of DOPMA that we examine can be found in U.S. Code, Title 10, Chapter 36, "Promotion, Separation, and Involuntary Retirement of Officers on the Active-Duty List." Those sections

- authorize service secretaries to establish competitive categories[2]
- require that promotion zones be based on seniority
- limit the percentage of officers within a competitive category who can be selected for promotion below the zone
- allow officers only one opportunity per grade to be in a promotion zone
- allow officers above the zone to remain eligible for promotion
- define those not selected for promotion while in the zone or above the zone as having "failed of selection"
- require O-3s and O-4s who twice fail selection in a single grade (once when in the zone and a second time when above the zone) to be separated or retired involuntarily unless
  - they are within two years of retirement eligibility or
  - they are selectively continued by a statutory board to remain on active duty
- set career tenure limits between 20 and 30 years of service through the grade of O-6.[3]

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[1]   DOPMA was more evolutionary than revolutionary, building upon prior legislation from the 1940s and 1950s and incorporating a number of ideas and policies that had been around for many years. For a more complete history and analysis of DOPMA, see Bernard Rostker, Harry J. Thie, James L. Lacy, Jennifer H. Kawata, and Susanna W. Purnell, *The Defense Officer Personnel Management Act of 1980: A Retrospective Assessment,* Santa Monica, Calif.: RAND Corporation, R-4246-FMP, 1993.

[2]   A *competitive category* is a grouping of officer occupations whose officers compete with one another for promotion.

[3]   For a more complete discussion of laws affecting officer management, see Roland J. Yardley, Peter Schirmer, and Harry J. Thie, with Samantha J. Merck, *OPNAV N14 Quick Reference: Officer Manpower and Personnel Governance in the U.S. Navy—Law, Policy, Practice,* Santa Monica, Calif.: RAND Corporation, TR-264-NAVY, 2005.

Related DoD policies are based on congressional intent conveyed in the House and Senate reports accompanying the DOPMA legislation. For example, the House report stated that "promotion of due course or typical officers within the following promotion windows is regarded as generally desirable": to O-4, 10 years active commissioned service (YCS) +/– 1 year; to O-5, 16 YCS +/– 1 year; to O-6, 22 YCS +/– 1 year. The same flow points are given in DoD instructions. DoD instructions also list a desirable minimum promotion opportunity of 95 percent to O-3, 80 percent to O-4, 70 percent to O-5, and 50 percent to O-6.[4] Those guidelines date back to the Secretary of Defense's *Report to Congress on Officer Grade Limitations* in 1973[5] and were repeated in the 1980 House report.[6]

Figure 2.1 recreates a chart that appeared in a section of the 1980 House report entitled "Career Progression." It illustrates officers' anticipated career progression as shaped by the laws and policies of DOPMA. All text in the figure is as it appears in the original document. According to the House report, "The chart is arranged to illustrate the normal distribution by years of service for each grade. The columns of numbers show the norms for years of service required for promotion to each grade and the objective career opportunity the system is designed to afford."[7] Notwithstanding the numbers in the columns on the right, the authors of DOPMA envisioned that officers would be promoted to most grades over a range of years. For example, the chart shows some officers being promoted to O-5 after 11 YCS and some to O-6 after 15 YCS, before the majority of officers would make O-5. The range of promotion timing increases for higher grades to the point that officers are promoted to O-7 as early as their 22nd YCS (i.e., after 21 YCS) and as

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[4] United States Department of Defense, *Commissioned Officer Promotion Reports (COPRs) and Procedures,* Washington, D.C.: DoD, DoDI 1320.13, 1996b.

[5]   United States Department of Defense, *Report to Congress on Officer Grade Limitations,* Washington, D.C.: DoD, 1973.

[6] United States House of Representatives, House Report No. 96-1462 (Committee on Armed Services), November 13, 1980.

[7]   United States House of Representatives, 1980, p. 18.

Figure 2.1
Dimensions and Characteristics of the Defense Officer Promotion System

	PROMOTION OPPORTUNITY (% TO GRADE)	PROMOTION TIMING (YEARS IN SERVICE)	CAREER EXPECTATION	CAREER PATTERN 100 OFFICERS (NO. TO GRADE)
GENERAL/FLAG				1.6
O-6	50 (BTZ: 10)	22 +/- 1 (SIG: 6)	AFTER 4 YEARS IN GRADE BOARD REVIEW TO 30 YRS	18
O-5	70 (BTZ: 7.5)	16 +/- 1 (SIG: 6)	2X NON-SELECT BOARD REVIEW TO 28 YRS	47
O-4	80 (BTZ: 5)	10 +/- 1 (SIG: 6)	2X NON-SELECT SELECTION IN UP TO 24 YRS	65
O-3	95 (BTZ: 5)	3.5/4 (SIG: 2)	2X NON-SELECT SELECTION IN UP TO 20 YRS	87
O-1/O-2	FULLY QUALIFIED	1.5	2X NON-SELECT SEPARATION	96

LEGEND
BTZ: BELOW THE ZONE
SIG: SERVICE-IN-GRADE

SOURCE: United States House of Representatives, House Report No. 96-1462 (Committee on Armed Services), November 13, 1980.
RAND *MG451-2.1*

late as their 30th YCS. In other words—and this is relevant to our recommendations—there is nothing new to the idea that officers could be promoted to the same grade over a wide range of years.[8]

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[8]   At least in the first half of the 1990s, officers were, in fact, promoted to general and flag officer grades over a fairly wide range of years. For example, in each of the services, some officers spent as little as three years as an O-6 before promotion to O-7 or as many as 11 years. See Harry J. Thie, Margaret C. Harrell, Clifford M. Graf, II, and Jerry M. Sollinger, *General and Flag Officer Careers: Consequences of Increased Tenure,* Santa Monica, Calif: RAND Corporation, MR-868-OSD, 2001b.

DoD Instructions state that some variation across competitive categories may be necessary to meet requirements.[9] Under DOPMA, variation in promotion timing can be more easily achieved *across* competitive categories than *within* them. Today, each of the military services has a single, large competitive category that includes all of its warfighting occupations and more; all but the Marines also have several smaller competitive categories with officers in specialized occupations. There are logical reasons why the services have designed the competitive categories in such a way, but, because of DOPMA laws and policies, the services cannot easily allow much variety in individual career paths. Instead, almost everybody ends up looking like the "typical or due-course" officer moving along the flow points listed in the "promotion timing" column in Figure 2.1.

Changing Career Paths Within a Time-Based System

An officer's career is constructed from a sequence of assignments (here we use a broader definition of assignments than elsewhere in the document, to include education and training). The number of assignments an officer has in his career is a function of the length of the assignments and the length of his career. The same relationship holds true for the length and number of assignments an officer has in a particular grade. The following equations capture this relationship:

$$\text{Average assignment length} \times \text{number of assignments in grade} = \text{Total time in grade}$$

$$\text{Average assignment length} \times \text{number of assignments in career} = \text{Total time in career}$$

Law and policy fix total time in grade (assuming promotion) at about six years for O-3s, O-4s, and O-5s and fix total time in career at 20 to 30 years, depending on the grade at which an officer retires. This

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[9]   United States Department of Defense, 1996b.

stipulation forces a trade-off between the other two factors: assignment length and number of assignments. Such a trade-off may be required by Congress, or by OSD, or may be compelled by the services themselves. Just six years after passage of DOPMA, the Goldwater-Nichols Act (GNA)[10] established rules for active management of joint assignments. Although no new billets were created as a result of GNA, a joint assignment effectively became a new requirement for those officers who would be serious candidates for promotion to general or flag officer. GNA even set minimum assignment tenures in order for officers to receive joint credit. As a result, the services faced the challenge of how to "fit" a joint assignment into the career of officers who would continue to be promoted at 10, 16, and 22 YCS with their peers, if not sooner as below-zone selections. The response was to shorten some assignments and/or eliminate other assignments. To use a contemporary example, the *Defense Language Transformation Roadmap* states that warfighting in the 21st century "will require forces that have foreign language capabilities beyond those generally available in today's force."[11] The Roadmap goes on to lay out plans to increase foreign-language ability and foreign-area expertise. Although these skills are intensely cultivated in foreign-area officers, others need them as well. Again, extra time spent in an educational or training assignment to gain language ability means either less time spent in other assignments or fewer assignments.

This research and analysis began with OSD asking how officers' assignments could be made longer. In a time-based management system, the simplest solution is for officers to have longer but fewer assignments. Another option is to provide incentives for longer service, since most officers do not serve to their mandatory retirement date (MRD). With the right incentives in place, extended MRDs would allow even longer service. This alternative only allows for additional assignments at the *end* of a career, when an officer is no longer being developed

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[10] *Goldwater-Nichols Department of Defense Reorganization Act of 1986,* Public Law 99-433, October 1, 1986.

[11] United States Department of Defense, *Defense Language Transformation Roadmap,* Wahington, D.C.: DoD, 2005, p. 3.

or promoted. The dynamic is easy to understand but is not readily apparent, and so we explain it in more detail in the following chapter. To allow more time in the *middle* of a career for longer or additional assignments, the promotion timing for all officers could be delayed. But this would essentially make everyone move at the same pace as the officers with the longest developmental path and would delay promotion to senior grades until late in an officer's career. Variable promotion timing is not easily allowed in DOPMA's time-based officer-management system, but we will show how it might work under a different set of laws and policies.

Effects of Extending Assignment and Career Tenures

In the first phase of this research, we modeled relatively simple policy alternatives for management of all generals and flag officers that came from line communities, about 550 officers total. The second phase of the research affects more than 200,000 active-duty officers below flag rank and considers more-complex policy alternatives. Rather than modeling career paths for all officers below flag, we have modeled specific communities in each of the services—Navy SWOs, Army infantry officers, Air Force space and missile operations officers, and Marine Corps officers not in aviation occupations. We did so to identify modeling results and policy interactions that are robust across communities of different sizes, with different authorization structures, and with different officer developmental needs and policies.

Brief Model Description

The RAND model has thousands of simulated officers who are individually accessed, assigned, educated, promoted, and separated. Each simulated officer's entire work and education history, from second lieutenant or ensign to the highest grade attained, is recorded and saved. Policies affecting each life-cycle function can be changed by the model's user, resulting in different career histories for some or all officers. Those career histories can be examined to see the effects of policy changes on the breadth and depth of officer experience. The model does not assess

or forecast the effects of policy changes on individual performance, individual retirement decisions, or organizational effectiveness.

The career path model is a vacancy-driven model that selects officers to fill vacated work assignments, school seats, and manpower spaces in a grade. Officers are not selected at random to fill vacancies but are chosen on the basis of their prior experience and work performance. At the time of accession, each officer is randomly given an "ability score" of 1 to 10, with an equal probability of each score. The officers' performance in each assignment is based on their ability score. In the time-based scenarios, all officers who have spent a certain amount of time in grade are on the promotion-eligible list. They are ranked on that list according to their recent job performance, and the top officers are selected for promotion. Similarly, in the competency-based scenarios, all officers who have met the minimum criteria are put on the promotion-eligible list and are ranked according to their recent job performance. Thus, job performance always determines which officers are selected for promotion. Past performance also determines which officers are slated for commands, in-residence professional military education (PME), and other key assignments, according to current rules used by each community.

Inputs come from the real world in the form of federal laws and DoD policies governing when officers are considered for in-zone promotion, the percentage of promotions allocated to officers below the zone, and mandatory retirement dates. The service communities provide the number, duration, and classification of assignments that their officers fill; notional career paths and assignment policies; and attrition rates. The simulated officers in the model are not generated using actual officer records, nor do the tables and figures here present statistics derived from actual officer records for the current force. The simulated officers also represent active-duty officers only, and the model inputs and outputs may differ for officers on the reserve active-status list.

For more details on the workings of the model and our interactions with the service communities during the modeling effort, see the Appendix.

Model Scenarios

For each line community, we produced baseline results using a set of inputs specific to each community and the laws and policies (or "business rules") that govern the officer career-management system. We refer to this as our "Baseline Scenario." We then changed some of the business rules and compared the new model results with the Baseline Scenario and with other scenarios when appropriate. We summarize the modeling results of the Baseline Scenario and six comparison scenarios in Table 3.1.[1] This chapter examines the results of the Baseline Scenario and Scenarios 1, 2, and 3; the next chapter examines the results of Scenarios 4, 5, and 6.

Each deviation from the status quo could be implemented in a nearly infinite number of ways. Every assignment could be lengthened by a year, or only a few assignments could be lengthened by three months, or half the assignments could be lengthened by a year, or half the assignments could be lengthened by three months, and so on. Obviously, not every alternative could be modeled. We tried to construct scenarios that would stretch the current system enough to generate meaningful differences from the baseline scenario but without making changes so extreme that they were patently infeasible or inadvisable. We generally lengthen assignments by 12 months unless

Table 3.1
Scenarios in RAND Model

	Scenario						
	Baseline	**1**	**2**	**3**	**4**	**5**	**6**
Assignment length	Status quo	Longer	Longer	Longer	Status quo	Longer	Longer
Career length	Status quo	Status quo	Longer	Longer	Status quo	Status quo	Longer
Time to promotion	Status quo	Status quo	Status quo	Longer	More varied	More varied	More varied

[1]   In subsequent tables and figures, we indicate longer assignments in scenarios as "longer TIA" (longer time in assignment) and longer careers in scenarios as "longer TIS" (longer time in service).

they are already 36 months long. In scenarios with longer careers, we allow O-4s to serve to 30 YCS, O-5s to serve 35 YCS, and O-6s to serve 40 YCS. But just as most officers today do not serve until their MRD, most leave before the extended MRDs in our scenarios. The scenario with longer time to promotion delays in-zone promotions by two years. The scenarios with more-varied time to promotion have an average time to promotion about the same as the current average.

The point of the modeling is not to test every conceivable variation in current law and policy but to help one understand how numerous variables interact in complex ways. Such a model provides the analytic support that enables a policymaker to transcend simple commonsense assertions when advocating change. To the extent that Congress, DoD, or the services wish to implement some of the policy changes examined in this monograph, the model can demonstrate the likely effects of those changes for individual officers and for the organizations that employ them. Exactly how those changes to law and policy might play out in different military occupations and for different individuals is uncertain. In this chapter and the next, we discuss our modeling results for active-duty officers in selected military occupations, but with the caveat that some of the alternatives we analyze would make the system less prescriptive and some alternatives are not truly under any centralized control.

Longer Assignments (Greater Depth) Result in Fewer Assignments (Less Breadth)

We begin by looking at Scenario 1, which makes assignments longer than those in the Baseline but keeps career lengths and time to promotion unchanged. The two equations presented in the previous chapter help to demonstrate the effects of changing assignment lengths, career lengths, and time to promotion. As Figure 3.1 makes clear, we would expect a decline in the number of assignments that officers have in each grade and throughout their careers. In a system in which officers spend six years in grade before promotion, if assignments are typically two years long, then officers will have three assignments per grade; if

Figure 3.1
Experience Breadth and Depth Trade-Offs with Longer Assignments

Average assignment length ↑	×	Number of assignments in grade ↓	=	Total time in grade (6 years) — No change
Average assignment length ↑	×	Number of assignments in career ↓	=	Total time in career — No change
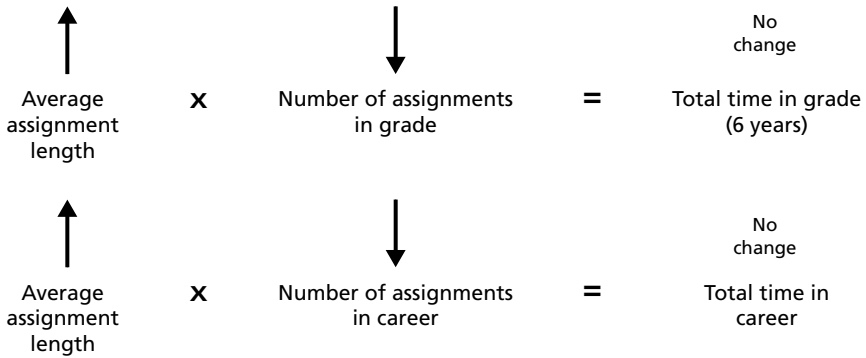
RAND *MG451-3.1*

assignments are typically three years long, then officers will have only two assignments per grade.

Of course, in the real world, an officer does not necessarily change assignments the day he changes grades. If an officer is selected for promotion, he may enter an assignment coded for the next-higher grade; conversely, an officer may complete an assignment in a job coded for a lower grade after he is promoted. When we present our modeling results, "assignments in grade" is calculated as the number of assignments an officer holds in jobs that are coded for a particular grade. Nevertheless, the trade-off illustrated in Figure 3.1 still applies: If, for example, O-4 assignments are lengthened, then officers will have fewer O-4 assignments.

The results of the modeling comport with our expectations. Table 3.2 compares the average number of assignments per grade for each analyzed service community in the Baseline Scenario and Scenario 1. When assignments were lengthened by 12 months (unless they were already 36 months long) in Scenario 1, the average number of assignments officers held in the grades of O-4, O-5, and O-6 declined. The size of the decline depended on several factors, including the number of school seats available to officers and the mix of assignment lengths

Table 3.2
Average Number of Assignments in Grade, Baseline Scenario Versus Scenario 1 (Longer TIA)

	Army Infantry			Navy SWO			Air Force Space and Missile Operations			Marine Corps		
	O-4	O-5	O-6	O-4	O-5	O-6	O-4	O-5	O-6	O-4	O-5	O-6
Baseline	2.6	2.9	3.3	2.7	3.1	3.4	2.6	2.8	2.9	3.3	3.1	3.6
Scenario 1 (Longer TIA)	1.9	2.0	2.2	2.2	2.2	2.4	2.3	1.7	2.2	2.4	2.3	2.5

NOTE: These averages are for all officers who had at least one assignment in a job coded for the grades listed, including those officers who were promoted and those who separated or retired at those grades.

in the Baseline.[2] Officers have fewer assignments not just in each grade but also fewer assignments throughout their careers. In terms of breadth and depth, officers bring greater depth but less breadth to each grade and to each key assignment, such as brigade or wing commander.

Longer assignments mean fewer officers have key experiences. If a grade has 90 command positions and commands are two years long, then 45 officers will enter a command assignment each year; if commands are three years long, then only 30 officers will enter a command assignment each year. The prior assignments and experience that a group of officers collectively bring to a career milestone, such as promotion to O-7 or selection for a major command, is sometimes referred to as "bench strength."

In Table 3.3, we examine one dimension of bench strength—breadth of experience—for Army infantry officers who reach the grade of O-6 and would compete for brigade command. The table lists the average number of O-6s, out of a total of 300, with particular types of experiences. For example, in the Baseline Scenario at any given time, about 270 out of 300 O-6s had previous experience as a battalion commander (Bn CO). When those battalion commands were lengthened in Scenario 1, only about 184 of 300 O-6s had that experience. The

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[2]   There are also technical reasons for the variation in the size of the decline. They are discussed in the Appendix, which explains the workings of the model.

Table 3.3
Army Infantry O-6s with Various Types of Experience as O-4 and O-5,
Baseline Scenario Versus Scenario 1 (Longer TIA)

Prior Experience	Number of O-6s	
	Baseline Scenario	Scenario 1 (Longer TIA)
Bn/Bde XO/S-3	300	278
Bn/Bde XO/S-3 plus CTC	66	16
Bn CO	271	184
Bn CO plus Div G-3	36	2
Joint	92	71

NOTES: The numbers in the table cells are not mutually exclusive. For example, an officer could have prior experience as a battalion commander and as a CTC observer/controller. Bn = battalion; Bde = brigade; XO = executive officer; S-3, G-3 = plans officers.

table shows that as a result of making most assignments longer, including commands, the number of O-6s with prior command experience as O-4s and O-5s declined. In fact, the number of O-6s with any one specific type of experience—joint, combat training center (CTC) observer/controller, division G-3—declined as a result of those assignments being longer.

The concept of officer development along a career path implies a rational sequence of assignments that enables officers to build desirable skill sets and apply their experience in increasingly important positions. Therefore, we also examine the *combinations* of assignments that the 300 infantry O-6s had as O-4s and O-5s. With longer assignments, the number of O-6s who had been a division G-3 and an operational battalion commander fell precipitously, as did the number who had been a CTC observer/controller and operational Bn or Bde XO or S-3. No O-6 had all four of these prior assignments after the assignments had been lengthened.

Extending assignment lengths without making other changes to the system clearly would disrupt current career paths. Officers would have greater depth of experience in any given assignment but would be less likely to have the subsequent assignments that build upon that

experience. Organizations would have greater personnel stability, but they would have fewer personnel with specific experience that is considered important.

Longer Careers Enable Officers to Have Additional Assignments Only in the Grade from Which They Retire

To mitigate the loss of breadth of experience that accompanies longer assignments, careers could also be lengthened. Figure 3.2 illustrates the expected effect of making assignments and careers longer (Scenario 2). If officers continue to be promoted at 10, 16, and 22 YCS, then longer careers will enable officers to have additional assignments only in the grade from which they retire. If assignments in such a system are longer, officers still lose breadth at all grades other than their last.

Figure 3.2
Experience Breadth and Depth Trade-Offs with Longer Assignments and Longer Careers

↑		↓		No change
Average assignment length	X	Number of assignments in grade *except final grade*	=	Total time in grade *except final grade* (6 years)
↑		↑		↑
Average assignment length	X	Number of assignments in *final grade*	=	Total time in *final grade*
↑		No change		↑
Average assignment length	X	Number of assignments in career	=	Total time in career
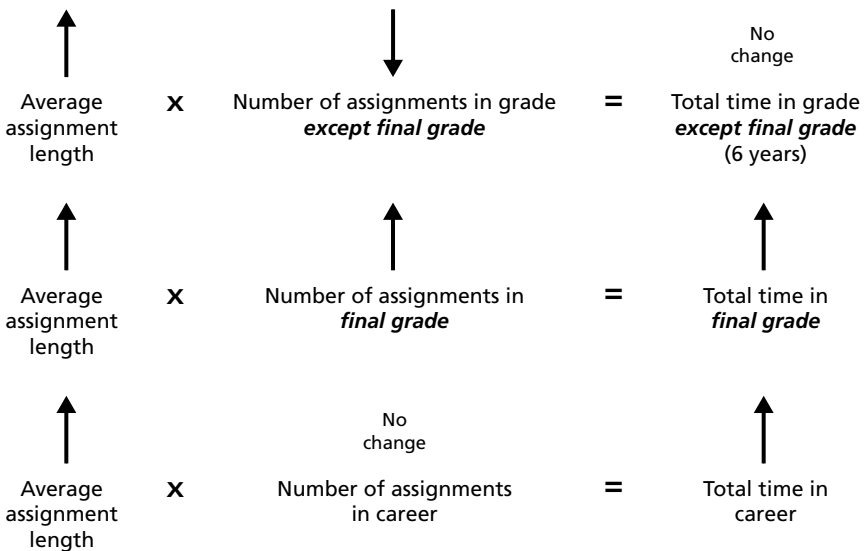
Staying with our Army Infantry example, Figure 3.3 shows how longer assignments cause officers to lose breadth of experience in any grade from which they are promoted, regardless of career length, if promotion timing does not change. In the Baseline Scenario, slightly more than half of the officers that make O-5 have three O-4 assignments (or two assignments plus Command and General Staff College [CGSC], and the rest have four assignments (or three plus CGSC). By our making assignments longer in Scenario 1 (Longer TIA), the distribution shifts to the left: About a quarter of the officers that make O-5 have only two O-4 assignments (or one plus CGSC), and the rest have three assignments (or two plus CGSC). The distribution is nearly identical in Scenario 2 (Longer TIA, TIS), in which we have also made careers longer. In other words, making careers longer did nothing to compensate for the loss of breadth with longer assignments. This is due to the fact that promotion timing did not change. The same occurs at each grade from which an officer is promoted. Officers regain the lost breadth of experience only in their final grade and once they are no longer competitive for promotion. Many officers might not even stay in the current system after it becomes clear that they will not be promoted.

The loss of breadth of experience also appears when measured in terms of collective experience. Again, Table 3.4 shows the number of Army Infantry colonels with particular assignments as O-4s and O-5s. In Scenario 2, the number of O-6s with prior experience in combinations of assignments, such as battalion XO and CTC observer/controller, is higher than in Scenario 1, but it is still far short of the Baseline.

Simply extending careers does not sufficiently compensate for the loss of breadth that comes with extended assignments. In addition, longer careers raise new complications. First, promotions decline. With a fixed number of authorizations, the promotion flow into a grade varies inversely with average time in grade.[3] The reduced flow of officers into a grade does not necessarily mean reduced promotion opportunity

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[3] Although we did not change promotion timing, average time in grade would increase because those officers who do not get promoted would, on average, stay longer than they would in the Baseline Scenario.

Figure 3.3
Number of O-4 Assignments Plus CGSC for Army Infantry Officers Promoted to O-5, Baseline Versus Scenario 1 (Longer TIA) and Scenario 2 (Longer TIA, TIS)
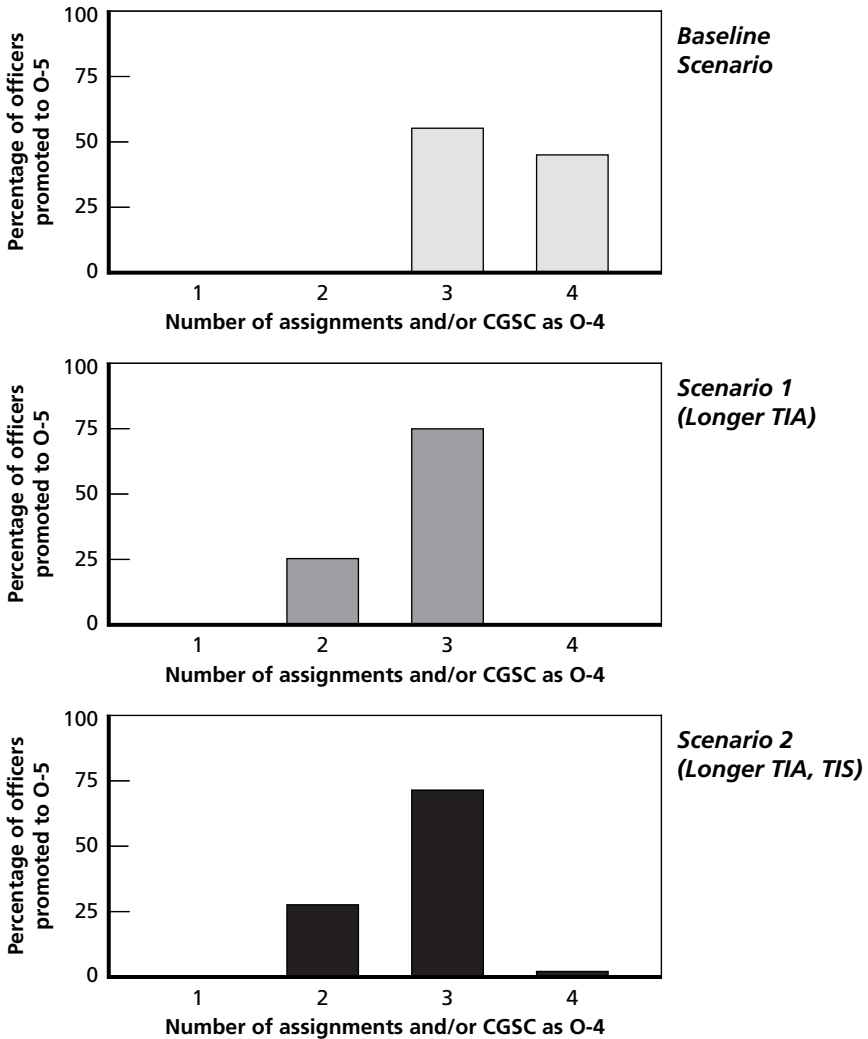
Table 3.4
**Army Infantry O-6s with Various Types of Experience as O-4 and O-5,
Baseline Scenario Versus Scenario 1 (Longer TIA) and Scenario 2 (Longer
TIA, TIS)**

Prior Experience	Baseline Scenario	Scenario 1 (Longer TIA)	Scenario 2 (Longer TIA, TIS)
Bn/Bde XO/S-3	300	278	300
Bn/Bde XO/S-3 plus CTC	66	16	30
Bn CO	271	184	270
Bn CO plus Div G-3	36	2	3
Joint	91	71	47

NOTE: The numbers in the cells are not mutually exclusive.

to that grade, because the flow of officers into the lower grades might also decline. Promotion opportunity is the ratio of promotions to eligible officers, and if both the numerator and the denominator decrease, the value of the ratio might increase, decrease, or remain the same. In Scenario 2, the reduction in promotion flows to each grade tended to reduce promotion opportunity. The declines were moderate, and most would likely judge them to be acceptable.

A second complication is that longer careers not only require changes to the mandatory retirement dates set in law but also require changes to individual behavior, which means new incentives are needed. Not all incentives are financial. Quality of life matters for officers and also for their families, particularly once children are in school. Longer assignments would result in greater geographical stability, which might induce more officers to remain in service.[4] In our subsequent discussion of a system with broader promotion zones, we discuss additional

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[4]   Longer assignments could increase the likelihood that an officer will be deployed. Other RAND work (James R. Hosek, Jennifer Kavanagh, and Laura Miller, *How Deployments Affect Service Members,* Santa Monica, Calif.: RAND Corporation, MG-432-RC, 2006) has shown that many officers prefer some deployment to none, and satisfaction with deployments depends on a variety of factors, including compensation, unit preparation, and predictability. In other words, it does not necessarily follow that an increased chance of deployments caused by longer assignments will reduce career satisfaction and therefore lower retention.

nonpecuniary incentives to longer service. Regardless of the incentives that might be offered, we can only guess how much longer officers would serve in any scenario that involves longer time in service.

Delayed Promotion Timing Allows for Some Additional Assignments Mid-Career

To allow officers time for more assignments mid-career, promotion timing could be delayed for the due-course officer. This is Scenario 3. In this scenario, officers spend eight years as O-4s before in-zone promotion to O-5, and they spend another eight years as O-5s before in-zone promotion to O-6. The trinity of changes we have now introduced slows the entire system: Officers have longer assignments, they have longer careers, and they must wait longer for promotion. Figure 3.4 illustrates the expected effect. Slowing down the entire system would result in breadth of experience about the same as that in the Baseline Scenario, but with the added benefit of greater depth of experience in each assignment.

The caveat is that officer behavior must change. In any scenario with longer careers, we assume some increase in continuation rates; with delayed promotion zones, continuation rates must increase substantially to meet authorizations. But the across-the-board delay in promotions undermines the feasibility of the higher continuation rates that are needed to meet authorizations. With in-zone promotions delayed by two years for both O-4s and O-5s, most new O-4s will have to serve another 16 years before becoming O-6s. Officers would not pin on their first star until nearly their 30th YCS. If officer behavior does change sufficiently to allow for longer careers and later promotions, officers have about the same number of assignments as they do in the Baseline Scenario, but they remain in those assignments longer.

Figure 3.4
Experience Breadth and Depth Trade-Offs with Longer Assignments,
Longer Careers, and Longer Time to Promotion
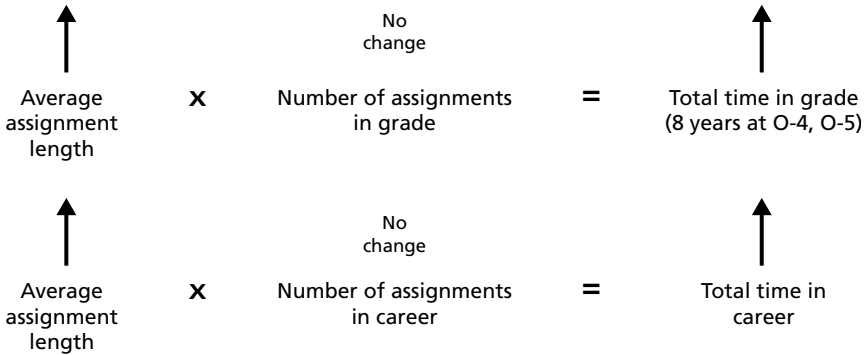
Conclusions About Extending Assignment Lengths

The DOPMA system is a time-based management system with relatively fixed flow points in an officer's career. Those fixed flow points compel a trade-off between the length and number of assignments. In the current system, if OSD or Congress or the services want officers to have longer assignments, then the officers must have fewer assignments; if they want officers to have more assignments, then the officers must have shorter assignments. Extending the flow points enables officers to have longer assignments, or more assignments, or both. These changes have implications for officer development, promotions, and behavior, which we briefly examined in this chapter.

The scenarios in this chapter are extreme: The services might not wish to extend the length of every assignment that is currently less than 36 months long. We used this extreme example to demonstrate how assignments must fit within a career, but we easily could have just extended certain assignments, such as command, staff, or some other type of assignment, and the officers that had those assignments would face the trade-offs examined in this chapter. Although the ser-

vices can vary the length and number of assignments that officers have, law and policy allow little variation in when officers are promoted and when their careers must end. In the next chapter, we examine possible outcomes if law and policy allowed greater variation in promotion timing.

Outcomes and Characteristics of a Competency-Based Management System

With the sequence of policy changes we have examined thus far, the pace of the officer career-management system has gradually become slower, while the flexibility of the system has remained the same. Yet in the general and flag officer phase of this project, we concluded that the costs and benefits of longer assignments are best balanced with a more flexible system, not one that is equally rigid but slower. In practice, a more flexible system allows longer careers and has wider promotion zones. Conceptually, this system manages careers according to competencies rather than according to time.

As stated above, we define competencies as an individual's KSAs. Military and civilian organizations assign and promote their members with the assumption that KSAs, or competencies, increase over time as a result of training, education, and work experience.[1] In this analysis, we make that assumption, too. Moreover, we also assume that each service community has an accurate understanding of how officers' KSAs develop and which are most appropriate to their various missions.

A Competency-Based System Makes Officers Eligible for Promotion Based on Education and Work Experience

The current system uses seniority to determine which officers are eligible for promotion, but statutory boards do not actually select offi-

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[1] Some researchers may argue that abilities are relatively less changeable.

cers based on seniority. Statutory boards make promotion decisions by examining officers' accumulated experience, demonstrated performance, and potential for success in the next grade. Those same criteria would continue to determine selection for promotion in a competency-based system, but a competency-based system would use accumulated experience, rather than seniority, to determine which officers are eligible for promotion in the first place.

What accumulated experience do the statutory promotion boards value today? None of the service communities we studied has a checklist of assignments required for promotion from one grade to the next; but it is obvious that an officer is expected to hold certain assignments. This is particularly true of command assignments for the top officers in a community. At some point in his career, a Navy surface warfare officer is expected to command a ship, an Army or Marine Corps infantry officer is expected to command a battalion, and an Air Force space and missile operations officer is expected to command a squadron. Other non-command assignments, such as joint or service headquarters (HQ) assignments, are also important. In fact, each community (or service, in the case of the Marines) has a notional career path comprising work and educational assignments that will make a due-course officer effective and credible.

We refined the notional career paths by meeting with several officers (normally O-5s and O-6s) from each service community and reviewing previous RAND research on officer competencies. The refinement of the career paths eventually led to development of something that looked more like a career web: Officers with any particular job (such as battalion commander as an O-5) could move in several logical directions afterward, depending on previous experience, grade, ability, and so forth. Some of these webs are more complex than others.

In the case of the Marines, for example, Fleet Marine Force (FMF) assignments are highly valued, but an officer should not hold these exclusively. He should get Marine Corps Headquarters (HQMC) or joint staff experience before promotion to O-6 if possible. Some "B-billet" positions, such as inspector/instructor, are also valued, and recruiting can become a *de facto* specialization, with officers having multiple recruiting assignments throughout their careers. Back-to-back

B-billet assignments, however, tend not to be career enhancing. Key operational assignments for field grade officers are battalion staff; battalion command; regimental, division, or Marine Expeditionary Force (MEF) staff; and regimental or Marine Expeditionary Unit (MEU) command.

Air Force space and missile operations officers typically have "broadening assignments" outside of their career field, particularly in acquisition jobs. Major command assignments, joint assignments, and PME are all highly valued. Key operational assignments for field grade officers are squadron, group, and wing commands. Army infantry and Navy SWO career webs also have unique features.

These are not hard-and-fast rules, of course; they are more like guidelines for development of competencies that will make officers effective and credible and, therefore, competitive for promotion. An economist might call them the "revealed preference" of assignment officers and promotion boards.[2]

To model a competency-based management system, we made officers eligible for promotion once they had some combination of schooling and assignments that met the career guidelines of their service community. We ignored seniority as an explicit criterion for promotion eligibility. Note that we changed the rules for promotion *eligibility*, not selection. In every scenario we modeled, whether time-based or competency-based, officers were selected for promotion based on prior and current job performance. Higher-quality officers were more likely to be slated for command and for other assignments that made them competitive for promotion, but no assignment or combination of assignments guaranteed promotion.

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[2]   We did not examine career patterns in actual officer records or actual promotion board results. Notional career paths provided by the service communities and observations from senior field-grade officers provide a more forward-looking picture of officer developmental requirements.

Specific Criteria for Promotion Eligibility Vary by Service Community

The promotion-eligibility criteria for each service community we studied appear in Table 4.1. They reflect the guidelines we derived from studying notional career paths, reviewing previous RAND research,

Table 4.1
Promotion Eligibility Criteria for Field-Grade Officers in a Competency-Based System

Army Infantry Officers	
To O-5	1. PME + (XO or S-3) + (CTC observer/controller or joint job) or 2. Any three O-4 jobs
To O-6	1. PME + CO + (division G-3 or O-5 joint job [if not "jointed" as O-4]) or 2. Any three O-5 jobs
Navy Surface Warfare Officers	
To O-5	1. PME + XO + (afloat staff or major staff or joint job) or 2. Any three O-4 jobs
To O-6	1. PME + CO + (O-5 afloat staff or major staff or joint job [if not "jointed" as O-4]) or 2. Any three O-5 jobs
Air Force Space and Missile Operations Officers	
To O-5	1. PME + squadron DO + (MAJCOM staff or acquisition or joint job) or 2. PME + MAJCOM staff + (acquisition job or joint job) or 3. Any three O-4 jobs
To O-6	1. PME + squadron CC + (O-4 or O-5 MAJCOM staff) + (O-4 or O-5 acquisition or joint job) or 2. O-4 MAJCOM staff + O-5 MAJCOM staff + O-4 or O-5 acquisition job + O-4 or O-5 joint job or 3. Any three O-5 jobs
Marine Corps Ground MOS	
To O-5	1. PME + (XO or CO) + (HQMC staff or career-enhancing B-billet job or additional FMF job or joint job) or 2. Any three O-4 jobs
To O-6	1. PME + (O-5 XO or CO) + additional O5 FMF job or 2. PME + (O-5 CO or [O-4 CO + O-5 XO or RSCO]) + (O-5 HQMC staff or O-4 or O-5 joint job) or 3. Any three O-5 jobs

NOTES: CC = commander; DO = director of operations; MOS = Military Occupational Specialty; RSCO = reserve station commanding officer.

and, most importantly, after meeting with representatives of the service communities. The criteria for field grade officers emphasize a mix of operational, occupation-specific assignments with assignments that provide broader experience at headquarters or at the DoD level. Joint assignments are important, as is PME. These guidelines are meant to be current and forward-looking rather than retrospective. Historically, some of the services or service communities may not have emphasized in-residence PME or joint assignments to the extent that we did in our modeling. We emphasize that this is our interpretation of some very broad guidelines, and, although the service communities reviewed these guidelines, nobody explicitly provided them to us.

We realize that other reasonable combinations of schooling and assignments can make officers effective, credible, and competitive for promotion. In fact, we modeled several different sets of promotion eligibility criteria for some of the services, some criteria being less restrictive than others. In a competency-based promotion system, less-restrictive criteria accelerate promotion eligibility, and more-restrictive criteria delay promotion eligibility. We examine the outcoms of alternative promotion eligibility criteria later in this chapter.

We found some interesting differences across the service communities in their approach to officer development. For example, the Army intends for infantry officers to have field-grade command-path assignments (including XO and S-3 for O-4s) relatively soon in grade. High-performers exiting command-path assignments may then become a combat training center observer/controller as an O-4 or a division G-3 as an O-5. The Navy, by contrast, intends for SWOs to have command-path assignments (again including XO for O-4s) relatively late in grade. Command-path assignments tend to be preceded by one or more assignments in the same grade. The real world can provide countless exceptions to these examples, but the notional career paths designed by the service communities suggest that the Army infantry and Navy surface warfare communities have different philosophies about the role of command-path assignments in officer development. Either way, command-path assignments are key assignments for top officers.

In our competency-based modeling, officers with greater potential and a record of excellent job performance are more likely to be slated for command, to have in-residence PME, and to be given other valued assignments, such as joint assignments. They are also promoted most quickly. Arguably this already occurs today via below-zone (BZ) promotions, but BZ promotions are arbitrarily capped by law at 10 percent (15 percent with approval from the Secretary of Defense), and many officers believe there is not much rhyme or reason to the selections for BZ promotion. The competency-based system provides a rationale to the number of officers promoted earlier than their peers. Officers who do not follow the faster paths to promotion are still eligible after three assignments. In some cases, that includes officers with three assignments plus school, which could take seven or eight years. As is true under current law, officers remain eligible for promotion after non-selection.

Having the three-assignment option is important for a couple of reasons. First, it makes all officers eligible for promotion at some point; they do not have to have specific assignments to be promoted. This fits with what each of the service communities told us: All jobs are important.[3] Second, some of the later promotions in our competency-based modeling could represent officers who otherwise might be on the fast track but choose an assignment for some reason other than rapid promotion. We did not include any function allowing for officer choice in our models, but individual preference has a significant effect on assignments in the real world. Quality of life, family, geography, workload, variety, and service need are all factors that compel officers to take assignments that may not improve (and may even damage) their chances for promotion in the current system.

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[3]   We do not disagree with this statement. But all jobs are not *equally* important. More to the point, certain combinations of jobs (and school) are highly valued—operational experience, plus a joint job, plus PME, for example. Officers with those credentials are promoted faster in our modeling.

A Competency-Based System Has Broader Promotion Zones

Table 3.1 listed the Baseline Scenario and six other scenarios that differ from the Baseline in one or more ways. We refer to the Baseline Scenario and Scenarios 1, 2, and 3 as "time-based" scenarios, because of the time-based rules that determine promotion eligibility. By contrast, we refer to Scenarios 4, 5, and 6 as "competency-based" scenarios, because we apply competency-based criteria to determine promotion eligibility. We allow the criteria listed in Table 4.1 to determine when officers become eligible for promotion. Within a single service community, some officers become eligible for promotion sooner than others, and therefore are promoted sooner than others. Figures 4.1 through 4.4 show how the timing of promotions to the grades of O-5 and O-6 varies within each community in Scenario 4. The variation in promotion timing shown in the figures is due to officers becoming eligible for promotion after either different numbers of assignments or assignments of different lengths. The assignment lengths in Scenario 4

Figure 4.1
Army Infantry Officer Promotion Timing in a Competency-Based System, Scenario 4
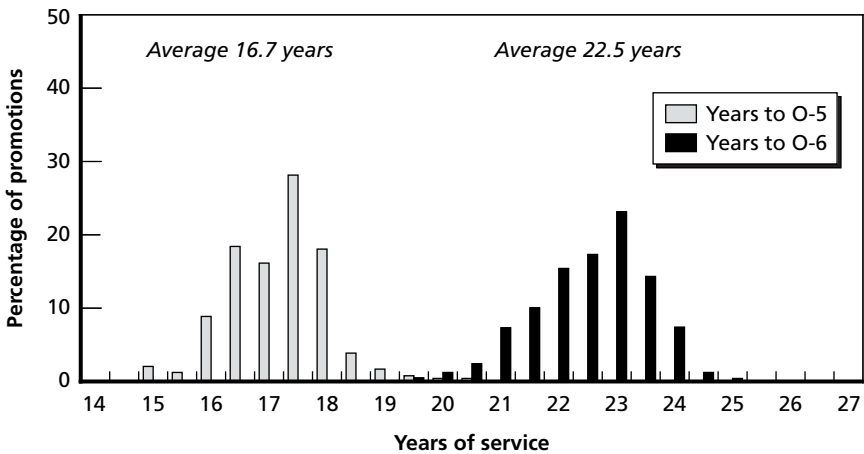
Figure 4.2
Navy Surface Warfare Officer Promotion Timing in a Competency-Based System, Scenario 4
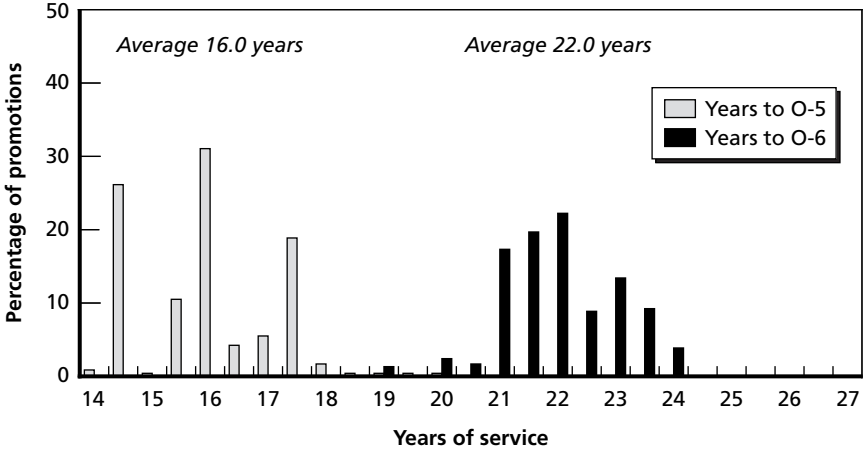
RAND *MG451-4.2*

Figure 4.3
Air Force Space and Missile Operations Officer Promotion Timing in a Competency-Based System, Scenario 4
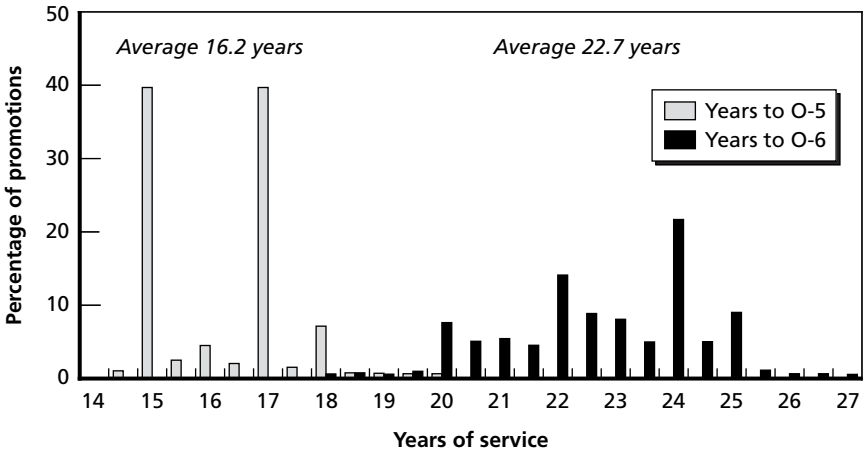
RAND *MG451-4.3*

Figure 4.4
Marine Ground MOS Officer Promotion Timing in a Competency-Based
System, Scenario 4
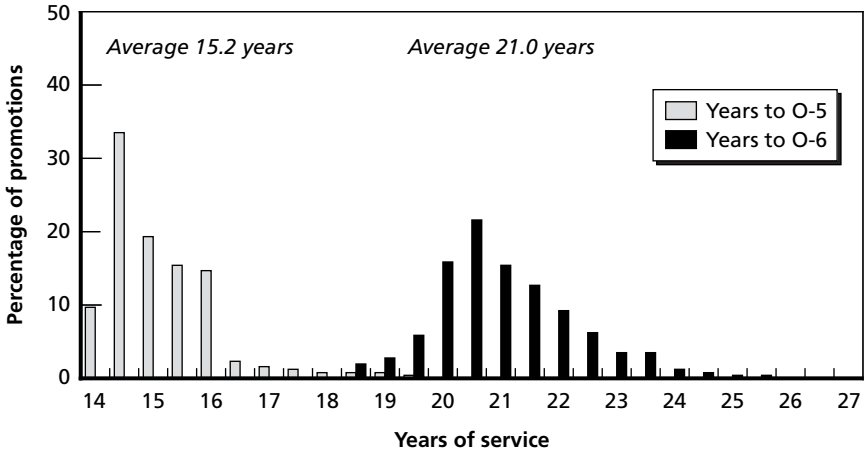
were the same as those in the Baseline Scenario—the default assign-
ment lengths. Even the default assignment lengths were not all equal.
We set joint assignments at 36 months, certain other assignments at
12 months (according to guidance from the service communities), and
most assignments at 24 months. Officers in Scenario 4 might have the
same number of assignments, but they become eligible for promotion
at different times if they have assignments of different lengths.

Obvious differences appear across the service communities. The
variety results from different promotion eligibility criteria, the number
of qualifying assignments and school seats, and the mix of assignment
lengths. The outcomes will change within a single service community
as the promotion eligibility criteria or the assignment lengths change. It
would therefore be wrong to conclude from looking at these charts that
one service community would necessarily promote earlier or later than
another in a competency-based system. Actual outcomes would depend
upon implementation by the service communities and the behavior of
individual officers. In fact, the variance in promotion timing *within*
the distributions is greater than the variance *between* them.

Rather than comparing precise modeling outcomes across the service communities, it is more useful to identify broad similarities that would likely characterize real-world outcomes in a competency-based officer management system. First, the timing of due-course promotions is spread out over multiple years. Second, average time to promotion is not much different from today's "desirable" promotion flow points. This is logical, since the promotion eligibility criteria reflect career guidelines that were designed to fit the current time-based system. Third, there is overlap between the latest promotions to O-5 and the earliest promotions to O-6. These observations apply not only to the capability-based promotion models but also to the "dimensions and characteristics of [the] defense officer promotion system" described in the House Report on DOPMA[4] and illustrated in Figure 2.1.

Outcomes of a Competency-Based System Might Not Significantly Differ from Those of a Time-Based System

Besides time to promotion, a variety of other measures, such as assignments in grade, time in grade, and promotion probability, show that aggregate outcomes for the entire service community are similar in the Baseline Scenario and Scenario 4. These measures are presented in Tables 4.2 through 4.5. "Average assignments in grade" is calculated for all officers who had at least one assignment in a job coded for the grades listed. "Average time in grade" is the average amount of time officers spend in a particular grade. We calculate it for all officers who reach a grade, including those who retire or separate from that grade. Thus, average time in grade is not equal to average time to promotion, nor is the sum of average time in grade for O-4, O-5, and O-6 equal to the cumulative amount of time an officer would spend in those grades. We calculate "promotion probability" as the number of officers promoted from a grade divided by the number of officers promoted to that same grade. In other words, the denominator includes officers

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[4]   United States House of Representatives, House Report No. 96-1462 (Committee on Armed Services), November 13, 1980.

who separate or retire before reaching the promotion zone. By contrast, "promotion opportunity"—which is more commonly used today—has as its denominator only the number of officers in the primary zone. Promotion probability will never be greater than promotion opportunity, and it is usually lower.

Table 4.2
Army Infantry Outcomes, Baseline Scenario Versus Scenario 4 (Variable Time to Promotion)

	Baseline			Scenario 4		
	O-4	O-5	O-6	O-4	O-5	O-6
Average assignments in grade	2.6	2.9	3.3	2.9	2.5	2.5
Average time in grade	5.6	5.4	5.6	5.6	5.7	4.6
Promotion probability	91%	50%	19%	89%	61%	16%

Table 4.3
Navy Surface Warfare Outcomes, Baseline Scenario Versus Scenario 4 (Variable Time to Promotion)

	Baseline			Scenario 4		
	O-4	O-5	O-6	O-4	O-5	O-6
Average assignments in grade	2.7	3.1	3.4	2.9	3.0	3.2
Average time in grade	6.1	6.2	6.2	6.1	6.3	6.2
Promotion probability	78%	49%	9%	77%	50%	10%

Table 4.4
Air Force Space and Missile Operations Outcomes, Baseline Scenario Versus Scenario 4 (Variable Time to Promotion)

	Baseline			Scenario 4		
	O-4	O-5	O-6	O-4	O-5	O-6
Average assignments in grade	2.6	2.8	2.9	2.9	2.5	2.3
Average time in grade	6.7	5.7	5.2	6.7	5.6	4.5
Promotion probability	60%	34%	7%	62%	38%	7%

Table 4.5
Marine Corps Ground MOS Outcomes, Baseline Scenario Versus Scenario 4 (Variable Time to Promotion)

	Baseline			Scenario 4		
	O-4	O-5	O-6	O-4	O-5	O-6
Average assignment in grade	3.3	3.1	3.6	3.3	3.2	3.6
Average time in grade	6.3	6.1	6.6	6.0	6.8	7.2
Promotion probability	53%	40%	10%	47%	41%	11%

These results indicate that changing the criteria for promotion eligibility would not necessarily have a significant effect on average outcomes for the entire system: On average, officers in the Baseline Scenario (time-based) and Scenario 4 (competency-based) were promoted at about the same time, had about the same probability of promotion, had about the same number of assignments, and separated or retired at about the same time. The averages, however, mask differences in variability. The competency-based system allows for greater variation in promotion timing, even if the average remains about the same as in the time-based system.

A Competency-Based System Accommodates Additional Mid-Career Assignments

Although our modeling had no "officer choice" component, real-world assignment decisions routinely take officer preferences into consideration, even if those preferences are subordinate to the needs of the services. The promotion eligibility criteria that we established for the competency-based system would enable officers to take an assignment or attend a school that is off the beaten path without damaging their chances for promotion. Their promotion would likely be delayed, but, provided they perform at a high level, they would still be highly competitive once they became eligible. In fact, that additional assignment or education might even provide some competencies that accelerate subsequent promotions.

Figure 4.5 adds more detail to the Army infantry promotion timing in Figure 4.1 by showing how many assignments officers had and how many schools they attended in residence as O-4s and O-5s prior to making O-6. Officers followed different paths to O-6, with some having more assignments and in-residence PME than others. Those promoted to O-6 earliest had only four or five assignments as O-4s and O-5s, plus in-residence PME. There was a limited number of commands, school seats, and other assignments that would enable officers to be promoted as rapidly as possible. Therefore, the majority of the officers promoted to O-6 had a total of six assignments as O-4s and O-5s. Some O-6s had seven or more assignments as O-4s and O-5s. In the real world, some officers might follow this longer route by choice, for family or other reasons. To summarize these results, a "due-course" officer to O-6 has changed from one who promotes based on performance after 12 years total as an O-4 and O-5 to one who promotes based on performance after six assignments total as an O-4 and O-5,

Figure 4.5
Army Infantry Officer Assignments and Education as O-4 and O-5 upon Promotion to O-6
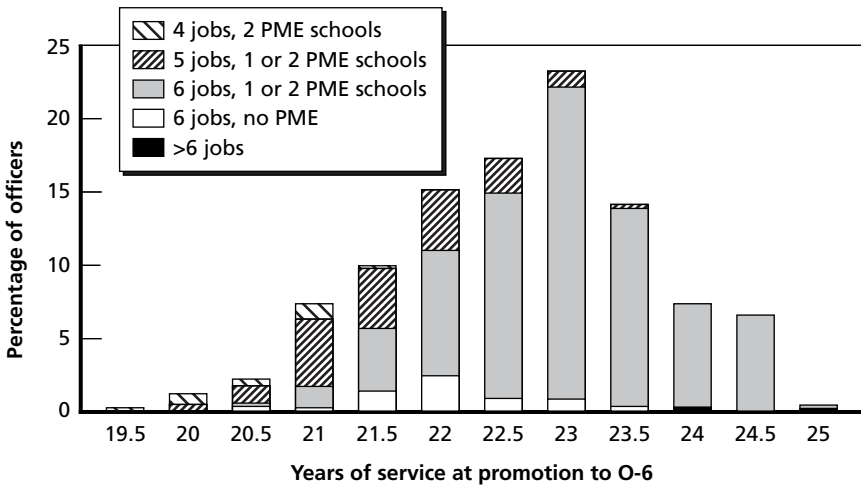
with enough time for PME as well. But the system has enough flexibility for officers to promote with either more or fewer assignments, given that they perform capably.

A Competency-Based System Accommodates Longer Time in Assignments

Just as variable promotion timing allows some officers to have additional assignments, so, too, does it allow officers to have longer assignments without slowing promotions for everyone else. This is because promotion timing changes dynamically with assignment length in a competency-based system.

In a time-based system, if all assignments are made longer, everyone will have fewer assignments; if some assignments are made longer, officers who hold those assignments will have fewer assignments than their peers. Those officers would not necessarily be at a disadvantage come promotion time—the longer assignments might be command-path assignments that go to the top officers in a community—but they would lose some breadth of experience needed for assignments at the next grade. Promotions could be delayed for all officers to allow officers with longer assignments to regain some breadth of experience, but delaying promotions for everyone has undesirable consequences. We next examine the outcomes of longer assignments in a competency-based system for Scenario 5.

In Scenario 5, we lengthened air squadron, group, and wing command and director of operations assignments for Air Force space and missile operations officers. This delayed average promotion timing to O-6 by almost a year. We made no changes to the criteria for promotion eligibility or to the business rules governing how officers are assigned. Figure 4.6 shows officers' years of service when they are promoted to O-6 in Scenario 4, which is competency-based but with default assignment lengths, and in Scenario 5, which is also competency-based but with the longer assignments described above. It is particularly noteworthy that the distribution did not simply shift to the right; it also changed shape. In fact, a few more officers were promoted before

Figure 4.6
Air Force Space and Missile Operations Officer Promotion Timing to O-6
with Different Assignment Lengths, Scenarios 4 and 5
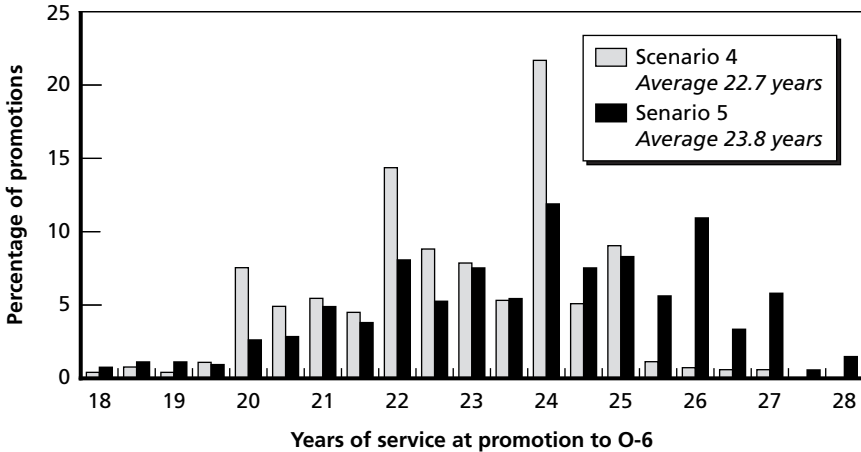
RAND *MG451-4.6*

20 YCS in Scenario 5 than in Scenario 4. This may seem counterintuitive, but the model's business rules weigh many factors in making assignment decisions, as assignment officers do in the real world. For the early promotees to O-6 in Scenario 5, the longer command-path assignments enabled the elimination of a lower-priority O-4 or O-5 assignment that did not contribute to promotion eligibility.

A Compentency-Based System Makes Better Use of Longer Careers

Regardless of the promotion rules (whether time-based or competency-based), longer assignments will result in fewer total assignments over the course of a career if career lengths do not change. Scenarios 2 and 3 attempted to redress this loss of breadth of experience by making careers longer in a time-based system. Scenario 6 extends assignments and careers in a competency-based system.

In Scenario 6 for Air Force space and missile operations officers, all assignments, not just command and director of operations assign-

ments, were lengthened the same as they were in Scenario 2. The results from those two scenarios are presented in Table 4.6. Like Tables 3.3 and 3.4, Table 4.6 shows the number of O-6s (out of a total of 143 for this community) who had different types of prior experience as O-4s and O-5s. This is one measure of bench strength for Air Force group and wing commands. With longer assignments and careers, the competency-based system (Scenario 6) produces more O-6s with prior joint experience, with prior acquisition experience, and with prior command experience than does the time-based system (Scenario 2). This is because Scenario 6 makes better use of the additional career length by allowing officers to serve longer in multiple grades. By contrast, Scenario 2 promotes officers according to current DOPMA standards and allows officers to serve longer only in their terminal grade.

Longer careers and variable promotion timing are complementary policies in another way: Extending career length may be necessary simply to meet authorizations. With *all* Air Force assignments lengthened to 36 months, officers need considerably more time to meet promotion eligibility criteria. Without later MRDs and incentives for longer service, officers would continue to retire in large numbers after 20 years of service, leaving too few to fill the grade O-6. The same occurs for the other service communities.

Table 4.6
Air Force Space and Missile Operations O-6s with Various Types of Experience as O-4 and O-5, Time-Based Scenario Versus Competency-Based Scenario

Prior Experience	Scenario 2 (Longer TIA, Longer TIS, Time-Based)	Scenario 6 (Longer TIA, Longer TIS, Competency-Based)
Joint	69	87
Acquisition	35	55
SQ DO + SQ CC	50	81
SQ DO + SQ CC + Joint	29	46

NOTES: The numbers in the cells are not mutually exclusive; SQ = squadron.

The alternative to extending careers with all assignments lengthened is setting promotion eligibility criteria with fewer assignments. In essence, this is what happens in Scenario 1 (time-based), in which officers are still promoted every six years with fewer but longer assignments.

As a practical matter, it is unlikely that a service community would make field-grade assignments longer across the board. If only certain types of assignments are extended, then career lengths might not need to be extended, and we would see outcomes such as those in Figure 4.6: later promotions for some, and different combinations of assignments in officers' assignment history (more individualized career paths). But, if a service community were to extend a large percentage of its assignments in a competency-based system, it would need to either extend officers' careers or change promotion eligibility criteria.

A Competency-Based System Allows Services and Service Communities Greater Control over Outcomes

The outcomes presented in this chapter depend on promotion eligibility criteria and assignment length. Both of these key factors would be controlled mainly by the services and the service communities. Therefore, the services and service communities would also have considerable control over the outcomes in a competency-based system.

We illustrate a range of possible outcomes in Figure 4.7, which shows years of service at promotion to O-6 for Marines. These outcomes result from a number of variations on Scenarios 4 and 5, where we have changed promotion eligibility criteria, made some assignments longer, or both. Scenarios 4a through 4d in the figure have Baseline assignment lengths but different promotion eligibility criteria (Scenario 4a is the same as Scenario 4). Scenarios 5a and 5b apply the promotion eligibility criteria of 4b but with different types of assignments extended: longer non-FMF assignments in 5a and longer recruiting assignments in 5b. The average time in service at promotion to O-6 varies from 21.0 YCS to 22.1 YCS in the different scenarios, but there is a wide distribution in all cases. The proportion of officers promoted

Figure 4.7
Marine Corps Ground MOS Promotion Timing to O-6 with Different
Assignment Lengths and Promotion Eligibility Criteria
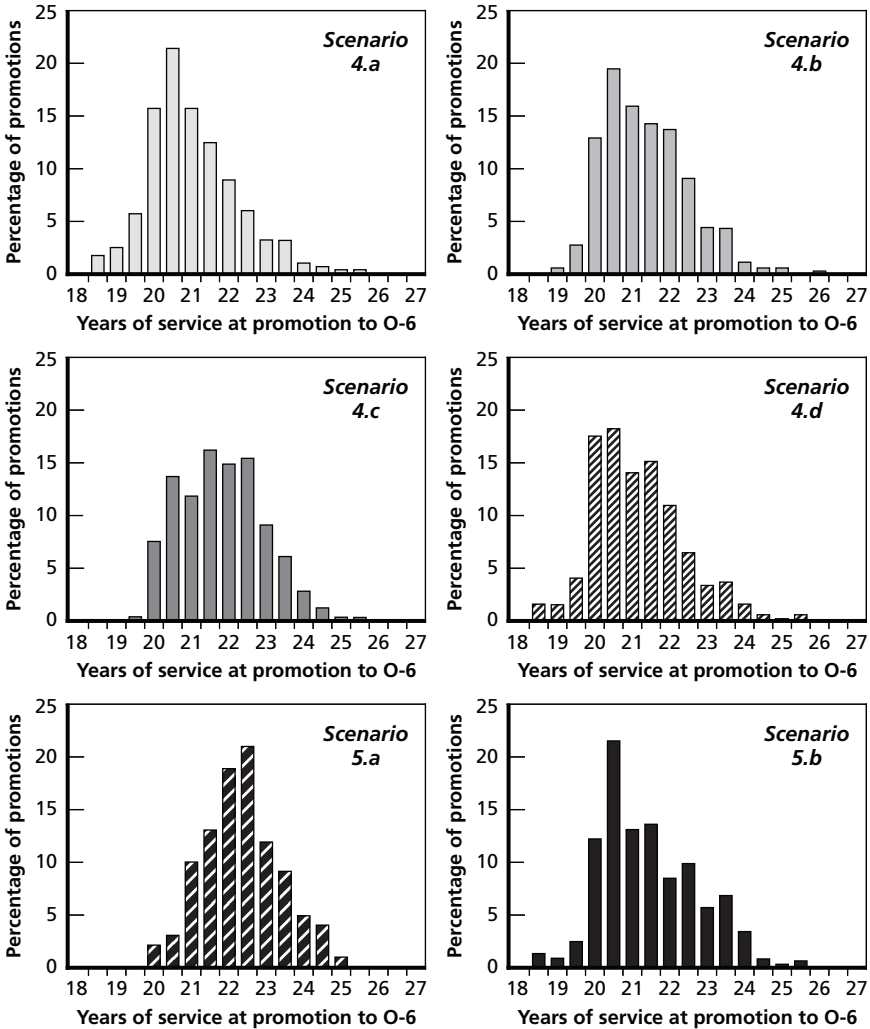
at 22 or fewer YCS varies from 47 percent to 84 percent. The point is not to compare one particular scenario with another but to show that the real-world outcomes in a competency-based system will depend

upon how related policies are implemented. We address specific implementation issues in the next chapter.

General Characteristics and Outcomes of a Competency-Based System

In this chapter, we have discussed the characteristics and outcomes of a competency-based system as we have modeled it. The key differences between this system and the current time-based system are the rules governing eligibility for promotion: Accumulated experience gained through assignments, education, and training would make officers eligible for promotion. There would be no primary promotion zone, based upon seniority, from which most officers would be selected. The services and service communities would determine the experiences that would lead to promotion eligibility; presumably, those criteria would reflect current career guidelines. We would expect to see "due-course" promotions distributed over multiple years for a single grade and perhaps even some overlap in the timing of promotions to different grades. While there would be greater variation in outcomes for individuals, average outcomes would probably resemble average outcomes today if promotion eligibility criteria reflect current career guidelines. A competency-based system can accommodate longer assignments for some officers, but if many assignments are lengthened, then careers must also be lengthened or the promotion eligibility criteria must be changed, similar to what would happen in a time-based system. A competency-based system can also accommodate additional assignments or education for some officers who may be at a disadvantage relative to their peers if they have such assignments in the current system.

We have offered a generic description of the characteristics and outcomes of a computer-modeled, competency-based system. The modeling in this study has examined specific communities to demonstrate how the effects of various policies might differ across services and service communities; it was not done to forecast outcomes or to establish

rules for how the policies should actually be implemented. In the next chapter, we address a number of real-world implementation issues for Congress, DoD, and especially the services and their officers.

Implementing a Competency-Based Career-Management System

In this chapter, we discuss a variety of implementation issues for a competency-based system, beginning with changes to U.S. Code, and continuing with DoD policy and then service policy. The officers who helped us with this work have raised concerns about some of these prospective changes to law and to DoD and service policy. We address those concerns and pay particular attention to "the deal" between officers and the institutions they serve.

Changes in Law

In the time-based scenarios we modeled, officers were considered "in-zone" once they reached a specified time in grade, with no more than 10 percent of promotions below the zone and a handful above the zone. The real-world promotion system has somewhat more flexibility in allowing the services to balance promotion timing with promotion opportunity. Nonetheless, the promotion clock is always ticking. The key phrase in Title 10 that compels a time-based promotion system is "failed of selection." Section 645, "Definitions," requires that promotion zones be constructed to include only officers who have not yet failed of selection, and Sections 631 and 632, "Effect of Failure of Selection for Promotion," require mandatory separation or retirement for officers who have failed of selection twice. Most officers get only one good opportunity for promotion per grade, and it comes at the same time for everybody with the same or similar time in service. As a

result, desirable work or educational experiences must fit within fixed promotion flow points.

Allowing greater flexibility in promotion timing would require relatively few changes to Title 10. The codified definition of a promotion zone, set in Section 645, could be eliminated; references to promotion zones could be deleted from Section 619, "Eligibility Requirements for Consideration for Promotion"; from Section 616, "Recommendations for Promotions by Selection Boards," which allows for below-zone promotions; and elsewhere in Title 10 as appropriate. Section 623, "Establishment of Promotion Zones," directs the services to set promotion zones that provide officers relatively similar opportunity for promotion over a five-year period. This assumes that officers will be considered for promotion in-zone only once. Parts of Section 623 may become irrelevant in a competency-based system. Sections 633 through 636, "Retirement for Years of Service," set mandatory retirement dates for officers in the grades of O-5 through O-8; with later promotions for some officers, these dates could logically be extended. If Title 10 changes to allow longer careers and to eliminate language requiring mandatory retirement or separation for officers who have twice failed of selection, the services will need some means of involuntarily separating underperforming officers. In a recent RAND report that examined how the "up-or-out" system could be modified, the authors suggested that a "perform-or-out" system could be established, whereby officers who have reached certain career tenure points must have an employment agreement from a command or a defense agency to remain on active duty.[1] Section 627, "Failure of Selection for Promotion," might then simply be eliminated, and Sections 631 and 632 might be modified to reflect effect of failure of selection for assignment.

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[1] Peter Schirmer, Dina G. Levy, Harry J. Thie, Joy S. Moini, Margaret C. Harrell, Kimberly Curry, Kevin Brancato, and Megan Abbott, *New Paths to Success: Determining Career Alternatives for Field-Grade Officers,* Santa Monica, Calif.: RAND Corporation, MG-117-OSD, 2004.

Changes in DoD Policy

Although promotion timing and opportunity guidelines are not codi-fied in law, they appear in the 1980 House Report[2] and in DoD directives and instructions. Even without changes in law, DoD could provide the services with more flexibility in managing officer promotions, by rewriting DoD Directive 1320.12 and DoD Instruction 1320.13.[3] The new language could omit references to desirable promotion timing and further clarify that it is acceptable policy for competitive categories to have different promotion timing and opportunity. Regarding promotion timing, DoD could instruct that officers remain competitive (not just eligible) for promotion despite not having been previously selected and that the low end of the promotion zone is not meant to be the standard time in grade.

Assignment lengths and selection of officers for promotion reside in the domain of the services and service communities. DoD provides general guidance to the services, but questions of which assignments should be extended and by how much would likely vary so much across service communities as to preclude specifics.

Changes in Service Policy and Practice

Changes to Title 10 and DoD policy would enable a competency-based promotion system, but the services and service communities would implement most of the changes. Such a system would be less prescriptive and would put more trust in the services to manage officer careers appropriately. The biggest challenge will be in identifying the KSAs that are conferred and required by each assignment, each school, and each training event. This is not a one-time effort, particularly on the

[2] United States House of Representatives, House Report No. 96-1462 (Committee on Armed Services), November 13, 1980.

[3] United States Department of Defense, *Commissioned Officer Promotion Program,* Washington, D.C.: DoD, DoD Directive 1320.12, 1996a, and United States Department of Defense, *Commissioned Officer Promotion Reports (COPRs) and Procedures,* Washington, D.C.: DoD, DoD Instruction 1320.13, 1996b.

demand side. Changes in the geopolitical environment, in technology, and in society have a continual influence on individual competencies that generate the capabilities of military organizations.

What we have presented in this report is a notional competency-based system that is basically a "push model" that considers officers for promotion once they have acquired certain experiences in their current grade. The services could instead implement a "pull model" that considers for promotion those officers whose competencies best meet requirements in higher grades. That approach requires a clear understanding of not only the supply of competencies but also the demand for competencies. In our work, we have assumed that the career guidelines described in the previous chapter provide an accurate, albeit static, picture of the experiences demanded in higher grades.

Disconnects could occur when individuals with similar assignments have vastly different experiences because of the timing of their assignment or the activities of the unit to which they were assigned. Other difficulties will arise when the historic pattern of officer development does not provide the scope of experiences that is desirable in future leaders. Both of these challenges indicate the need for the services to build and maintain their understanding of how KSAs develop and which KSAs matter the most in different assignments. Although we have modeled a system in which officers are assumed to hold competencies by virtue of having had particular assignments, officers could be individually assessed to determine whether the knowledge, skills, and abilities have been conferred or developed to the desired level. This will differentiate individuals not only by professional experience but also by the KSAs actually gained or improved through that experience.

The average outcomes of the competency-based system we modeled did not differ significantly from the outcomes of the time-based system we modeled. This, as we explained, was due to the fact that the career guidelines are designed to fit within about a six-year promotion window, and so following those guidelines results in promotion after about six years. Over time, given greater flexibility in promotion timing, the service communities might begin to change their career guidelines and officers might begin to change their expectations for promotion timing and career tenure.

Outcomes across occupational communities may diverge more than they do now, should the services deem it appropriate and desirable. Currently they do not. The expectation is that officers in widely disparate occupations require roughly the same amount of time to become effective and credible O-4s, O-5s, and O-6s. That expectation cannot be tested much under current law and policy. With changes to law and policy, communities might differ more than they do today, but that does not mean all communities would necessarily change. Even with a more flexible system, promotion timing and career lengths in some communities might not vary much across individuals, and averages might stay about the same as today. In the course of our research, multiple officers, from multiple services, opined that current promotion timing and career lengths are just about right for their communities.

The extent to which outcomes vary across individuals or average outcomes shift depends in part on whether assignments are lengthened and how much they are lengthened. DoD has much greater visibility over assignment length at the general and flag levels, but for company and field grade officers, assignment length is mainly administered by the services. The same is true of career paths. The services and their occupational communities would presumably make assignment length and career-path decisions based on their assessment of the supply and demand of competencies. The myriad service communities will surely view the trade-offs between breadth and depth of experience differently, given their understanding of what competencies officers bring to an assignment and what competencies officers develop in an assignment.

Concerns About Changing the Officer Career-Management System

In the course of our research, we presented interim modeling results to several officers from each of the services and service communities we studied. Those officers raised a number of concerns about the changes to law and policy under consideration. The concerns do not rise to the level of fatal flaws, but they will need to be addressed in order to estab-

lish a system that is manageable, effective, and legitimate in the eyes of its officers.

To begin, the existing compensation and retirement systems currently do not fit varied promotion timing and longer careers for some officers. Making them fit requires more than just changes to MRDs; officer behavior must also change if careers will be lengthened, and that requires different incentives. Financial incentives would likely include later basic-pay increases for career tenure. But there may also be non-financial incentives inherent in a system with longer assignments and continued possibility of promotion beyond current promotion windows. Extended assignments could lead to longer service because of the increased geographical stability. The wider promotion zones provide another incentive to longer service: Not only can officers remain truly competitive for promotion for a greater period of time, but they also have time to take an assignment that might be appealing, even if it is not career-enhancing, without hurting their promotion opportunity. Greater flexibility in the promotion system could also provide a better fit with other initiatives that give officers greater choice and control over their careers, such as sabbaticals[4] and the continuum of service.[5]

Longer careers and later promotions for some officers may also foster career stagnation and a belief that continued service is an entitlement for officers who do not get promoted. But we have shown that just as we expect later promotions for some officers, we also expect earlier promotions for others, and in all cases that we modeled, significant numbers of officers were promoted at the same time or earlier than they would have been in a time-based system. A more flexible set of promotion and continuation rules will not lock the services into a particular set of outcomes that are undesirable or unacceptable. For those officers who are not promoted, there is no entitlement to lifetime employment regardless of performance. A competency-based system focuses

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[4] See, for example, Harry J. Thie, Margaret C. Harrell, and Marc Thibault, *Officer Sabbaticals: Analysis of Extended Leave Options,* Santa Monica, Calif.: RAND Corporation, MR-1752-OSD, 2003.

[5] The term "continuum of service" refers to initiatives on the part of DoD and the services to ease movement back and forth between the reserve and active forces.

on officer competencies for continuation as well as for promotion decisions. The basis for continuation decisions would be employability, the essence of a perform-or-out (compared with up-or-out) policy.

A competency-based system will be harder to manage because more decisions are made about individuals and fewer about groups. Plus, the number of individuals being considered may increase if promotion windows are opened wider. Not only might this increase the administrative burden for the services in managing personnel, it will also effect a cultural change in which a "one-size-fits-all" system with roughly equal outcomes for groups of officers is no longer a given.

In the administration of a system that makes more individual-level decisions, information technology (IT) is critical. The Navy's online five-vector model offers one example of an IT-enabled career-management tool. All active-component personnel can log on to Navy Knowledge Online and check their status on five vectors that indicate an officer's personal and professional competencies. The services may also require additional modeling and analytic capabilities to manage diverse and individualized careers.[6]

Another way to alleviate some of the administrative burden for the services is to decentralize some decisions. If a perform-or-out system comes to replace up-or-out, then continuation of field grade officers would be determined by employment decisions made by commands, agencies, and the officers themselves, rather than by a centralized board. More-variable promotion timing will give officers greater control over their careers by allowing them to take an assignment off the beaten path or to pursue further education.

Many of the changes under consideration have implications for military culture. Organizational culture changes more slowly than the environment in which the organization exists, but it changes nonetheless. Culture changed after the transition to an all-volunteer force and after the Goldwater-Nichols Act compelled a greater focus on joint operations and joint officer management, and it is likely changing today in response to the unprecedented reliance on guard and reserve forces

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[6] United States House of Representatives (1980) also cites the need for better manpower models.

to prosecute the Global War on Terror. Ultimately, culture affects the individual in terms of his expectations, attitudes, beliefs, and behaviors. Thus, the final section of this chapter looks at how the focus on competencies in officer career management will affect individuals.

The "Deal"

In an earlier presentation by RAND on this topic, a senior decisionmaker asked an important question about the supply of people as officers under a changed management system. In his words, will they accept a changed "deal"? We believe that the current system is moving slowly toward multiple deals for different sets of occupations and different people. This reflects the current need for realistic "deals" between those responsible for providing defense (including the military services, defense agencies, OSD, and Congress) and the officers themselves. Examples of the move toward multiple deals include the personnel management changes introduced by GNA in 1986, the compensation changes implemented in the past few years, and the direction set by the *Ninth Quadrennial Review of Military Compensation.*[7] Recent service initiatives focusing on quality of life, quality of service, predictability in deployments, and greater specialization in officers beyond ten years of service also indicate a move toward different deals for different people. While the changes to officer management proffered in this monograph are far reaching, they may be part of the path of change that has appeared in recent years.

   An organization can be thought of as a set of "contracts" between two groups of people.[8] These understandings about one another's actions—what each is expected to do—are for the mutual benefit of

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[7]   United States Department of Defense, Office of the Under Secretary of Defense for Personnel and Readiness, *Ninth Quadrennial Review of Military Compensation,* Washington, D.C.: DoD, 2002.

[8]   This paragraph is adapted from Shyam Sunder, "Management Controls, Expectations, Common Knowledge and Culture," *Journal of Management Accounting Research,* Vol. 14, 2002, pp. 173–187. Available at http://www.som.yale.edu/faculty/sunder/research.html under "Published Articles"; accessed March 2006.

both groups. Not all of these understandings are explicit. Many are implicit and are a matter of convention and long-standing practice. The officer management system can be thought of as one type of contract with both explicit and implicit understandings. Those responsible for defense have expectations that sufficient participation in the organization will lead to national security. Individual officers enter the military with an expectation that what they will receive from participation in the organization is worth the sacrifice they expect to make. If these conditions are not fulfilled, those already in the organization may leave, and others will choose not to join.

At least three environmental changes have caused those responsible for defense to consider changes in the nature of the existing contract.[9] The end of the cold war has led to new national security strategies, new organizations, and new technologies. The rise of jointness has led to different needs for training, education, and experience that must be met within the career system. And lastly, military operations after September 11 have relied more heavily on members of the reserve component than any previous.

How officer career management should change has been chronicled.[10] Implementation of those proposed changes was modeled in this study against the need for officers (authorizations), and those practices can be used as instruments of DoD policy to shape effective forces. Moreover, the practices were analyzed with specific consideration of the satisfaction of officers and their families with the model outcomes. What is not known with any certainty is how officers who are now

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[9]   For example, the FY 1993 authorization act called for an evaluation of the officer personnel management system with respect to promotion timing and opportunity, career lengths, and other features of the system under DOPMA. A report accompanying the Senate authorization bill that year stated that "longer careers should be the rule rather than the exception and up-or-out features of DOPMA should be adjusted accordingly." See *National Defense Authorization Act for Fiscal Year 1993,* Public Law 102-484, October 23, 1992, and United States Senate, Senate Report No. 102-352 (Committee on Armed Services), July 31, 1992.

[10]   See, for example, Harry J. Thie, Margaret C. Harrell, Roger A. Brown, Clifford M. Graf, Mark Berends, Claire M. Levy, and Jerry M. Sollinger, *A Future Officer Career Management System: An Objectives-Based Design,* Santa Monica, Calif.: RAND Corporation, MR-788-OSD, 2001a; Defense Science Board Task Force, Human Resources Strategy, Washington, D.C.: DoD, 2000; United States Department of Defense, 2002.

serving or who might prospectively serve will behave in the face of a new "deal." Gaining such information before the deal is struck is difficult for a number of reasons, not the least of which is that officers may not understand the scope of the forthcoming deal, and people usually dislike the unknown.

In the absence of short-term and prospective information on officers' likely behaviors, their behaviors will only be known over longer periods of time through appraisal and performance management, compensation needs, retention, and accession. Explicit and implicit contracts—the terms of the deal—may need to change as more information about the changing environment and about behaviors becomes known. However, a virtue of the proposed management system is its flexibility. Rather than specifying a single prescription for officer management as most previous systems have done, we suggest creating boundaries within which managers can reshape the deal as needed to adjust to changing environments and changing needs.

We would also argue for a gradual implementation of many of these practices over a period of years, so that the deal can be seen as evolving and as designed to meet the needs of both sides of the transaction. Gradual implementation is also recommended because what is known today about required competencies, particularly for senior positions, is often based on subjective assessments and not necessarily on a more systematic evaluation of the competencies, how frequently the competencies are applied, and their importance to job performance. As the military personnel-management system gradually evolves, so, too, should the services' ability to manage competencies to meet the diverse operational needs of the 21st century.

Conclusions and Recommendations

Conclusions

Civilian and military leaders within DoD recognize the need for a personnel management system that will be more capable of generating needed capabilities for the future operating environment. Current law, policy, and practice have created a system optimized around fixed, short tenures, promotion timing, and promotion opportunity, with the following outcomes:

- Uniform outcomes across services and skills
- Service-specific development
- High turnover
- Frequent moves
- Short job tenures
- Standardized, short careers
- Emphasis on grades and promotions
- Little choice.

To borrow language from the legislation that created the National Security Personnel System,[1] the military needs a personnel management system that is more *flexible* and *contemporary*. Promotions in such a system would be less time-driven and would, instead, allow for a variable pace in the development of knowledge, skills, and abilities—i.e.,

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[1] *National Defense Authorization Act for Fiscal Year 2004,* Public Law 108-136, November 24, 2003.

competencies. Those competencies generate the many organizational capabilities needed to fulfill the range of roles and missions of the armed forces. Just as the organizational capabilities are multiple and varied, so, too, are the competencies that generate them. But the current system forces development and utilization of those competencies into a single time line applicable to everyone.

We have shown how this time line does not accommodate longer assignments in some jobs without compelling a reduction in the number of assignments an officer has. Additional years can be tacked on to the end of this time line, allowing officers to spend more time in their terminal grade via selective continuation. But current law and policy do not easily allow for additional years in the middle of a career, in the sense that an officer cannot spend more time in a grade than his peers do without being labeled a failure and significantly diminishing his chances for promotion. Delaying promotion for all officers to allow some officers to have longer or additional assignments has undesirable outcomes that suggest this option is infeasible.

The outcomes of a more flexible system will depend largely upon implementation by each service and service community. We do not expect implementation to be easy or quick. There already exist career paths or career "webs" for most officers, but these notional careers were designed to conform to the laws and policies established by DOPMA that have been largely unchanged for at least a quarter century. Implementing a new set of policies and practices will require examination of the competencies needed to generate organizational capabilities, an understanding of how those competencies are developed and applied, and a design of career paths that balance developmental needs with other criteria, such as opportunity, incentives for performance, organizational stability, and so forth. A more flexible system that allows for multiple time lines also will allow for multiple outcomes, but we have shown that aggregate, or average, outcomes may not vary significantly from current outcomes. In fact, many officers in the future may have careers that are identical to careers of today, depending on how each service and service community exercise the greater flexibility they would have.

Although we have focused on the promotion process, managing officer competencies will have implications for all personnel life-cycle functions, from accessions to retirements. For example, the redesign of career paths for some occupational communities will almost certainly require longer careers for some officers. Should that occur, officers will require additional incentives—financial and other—to commit to those longer careers. Longer careers could also result in fewer accessions to certain career fields and different service obligations in exchange for advanced civil schooling.

Recommendations

This research continues earlier RAND work that analyzed assignment length and career length for general and flag officers.[2] From that study, RAND recommended that the services and DoD manage the things officers do (assignments) and allow career tenure and time in grade to become second-order outcomes. We applied that same logic in the current phase of this research for officers below general and flag rank. In particular, we recommend that promotion timing vary to allow officers to have longer assignments or additional assignments (including training and educational assignments). If officers routinely have longer assignments, their breadth of experience will diminish, regardless of the promotion rules in place, so longer careers may also be necessary.

We also recommend that OSD and the services consult with each other and with the relevant congressional bodies early and often so that all parties understand the reasons for changing the laws and policies governing officer career management. It is equally important to ensure that the officer corps understands the new system. Creating and managing a more flexible system requires not just changes to laws and policies but to practices based on military- and service-specific culture. Many elements of the culture date back to the nation's founding and

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[2] Margaret C. Harrell, Harry J. Thie, Peter Schirmer, and Kevin Brancato, *Aligning the Stars: Improvements to General and Flag Officer Management*, Santa Monica, Calif.: RAND Corporation, MR-1712-OSD, 2004.

must endure, but some elements of the culture that are tied to expectations about how officers are evaluated, developed, compensated, educated, promoted, and separated will inevitably be affected by a new "deal" between individuals and the organizations they serve. Culture and expectations will change to accept a new deal, as the legacy of the Goldwater-Nichols Act proves, but the deal must be perceived as being fair.

Finally, because the changes discussed in this monograph are complex, we recommend gradual implementation of new policies over a period of years. An important tool for facilitating this transition is demonstration project authority, which would allow for waivers of certain aspects of Title 10 in order to test the impact of alternative policies. The use of demonstration project authority for civilian management eventually led to the National Security Personnel System in 2005 after two decades of testing. Computer models, such as the one used for this study, can help clarify issues related to the transition from one type of personnel system to another, but extensive real-world experience will be needed to ensure the new system's success.

Career Path Model

For this study, RAND developed a discrete entity model, in which each military officer, job, grade, and occupational community is defined by a unique array of information. It functions somewhat like the popular computer strategy game *SimCity*, in which a human player designs and builds a city and simulated people live and work in it. The RAND model includes thousands of simulated officers who are individually accessed, assigned, educated, promoted, and separated, and each officer's entire work and education history, from second lieutenant or ensign to the highest grade attained, is recorded and saved. Policies affecting each life-cycle function can be changed by the user, resulting in different career histories for some or all officers.

As with commercial computer simulation games, time is compressed in the model. We run the program over a period of about 100 simulated years so that thousands of officers will pass through the system, producing many unique officer career records. We analyze the records of simulated officers just as one would analyze the records of real officers, while calculating various metrics of interest, such as career length, types of assignments, and so forth. Strictly speaking, the model is not steady state because it includes stochastic elements and it deals in whole units of jobs and people, just as in the real world. But we can approximate steady-state results by calculating averages across the large number of officers who pass through the system during the many periods modeled. The model is currently not configured to simulate the transition from one type of personnel system to another (e.g., from a time-based to a competency-based system), but it could be modified to do so.

Model Inputs

Congress, DoD, the services, statutory boards, community managers, and individual officers all make decisions or set policies that shape career paths. Although no individual actor or collective actors have exclusive control over all aspects of officer career management, generally speaking, Congress and DoD set basic career parameters, such as the number of officers that serve in each grade and how long they serve; the services and service communities determine how officer careers are managed within those parameters; and officers themselves determine their individual behavior (for the purposes of this model, continuation decisions).

Translating these decisions and rules into a computer model requires numerous inputs. Some inputs are strictly quantitative, such as authorized grade strength, the length and number of command assignments, and mandatory retirement dates. Other inputs, which we call "business rules," govern processes. We apply a number of business rules to determine which officers get selected for promotion, when officers have key assignments and what the prerequisites for those assignments are, when officers choose to separate or retire (as opposed to being required to separate), and so forth. Just about any quantitative input or business rule can be changed to yield a different set of results from the model.

Most of the inputs were provided by the service communities, including the following (almost all data were provided on a grade-by-grade basis):

- Officer authorizations and inventory
- Billets categorized according to the nature of the job. For example, jobs were identified as being command or command-equivalent, operational, joint, afloat, continental United States (CONUS), and so forth. The categories were specific to each community and therefore were not entirely consistent across the different communities we modeled.
- The length of different types of assignments
- Prerequisites for certain assignments

- Desirable sequences of assignments within a grade or throughout a career
- The number of school seats allocated to or typically filled by officers in the communities
- Historical attrition rates, by year of service.

Individual behavior, service policy, and federal law all affect rates of attrition (which we define to include both voluntary and involuntary retirements and separations). The model does not forecast or predict attrition decisions based on factors such as promotion opportunity or financial incentives. Voluntary separations and retirements are strictly an input to the model, and when we change that input we implicitly assume that sufficient incentives exist to cause that change in behavior. Involuntary separations and retirements are a function of other inputs, such as grade structure and mandatory retirement dates.

Title 10 and DoD policy dictate inputs and business rules governing when officers are considered for in-zone promotion, the percentage of promotions allocated to below-the-zone officers, and mandatory retirement dates. In our models, we fix promotion timing at the prescribed flow points and allow promotion opportunity to vary in order to meet requirements.

Model Procedures

The career path model is a vacancy-driven model that loops through a sequence of personnel management procedures that mirror real-world life-cycle functions. At the beginning of the loop, O-7 vacancies due to retirement and promotion are calculated. The model tracks the billet each officer is filling, so both grade vacancies and billet vacancies are known. O-6s are selected for promotion to fill the grade vacancies, and then the remaining O-7s and promotable O-6s are selected to fill billet vacancies. This is done by calculating a "job score" for each officer for each billet that has a vacancy. The job score reflects the officers' qualifications and suitability for each billet, including prior experience, schooling, time in grade, and prior slating for the assignment (in the

case of commands). A candidate list is then generated for each billet that has a vacancy, with officers ranked from highest to lowest job score. The billets are filled in order of priority, with the top available officers selected to fill the highest-priority vacancies. In addition to the O-6s being promoted, some O-6s decide to retire, so that the model has now calculated O-6 grade vacancies and billet vacancies. The process continues for O-5s, then O-4s, and down to O-1s. New officers are accessed to fill O-1 grade vacancies. Each loop represents a six-month period, so an officer in a two-year assignment would be in that assignment for four loops. An officer in a grade for six years would be in that grade for 12 loops, and an officer in a 25-year career would be in the system for 50 loops, at various grades.

At the time of accession, each officer is randomly given an "ability score" of 1 to 10. There is an equal probability of each score. The officers' performance in each assignment is a random number based on their ability score. Performance is used as a tiebreaker for officers who have the same job score. For example, two officers competing for battalion command both might have previously been battalion S-3s, attended in-residence PME, and have the same time in grade. But one will have performed better in his S-3 assignment and is therefore ranked higher than the other on the job-candidate list for battalion command.

Performance is also used to select officers for promotion. In the time-based scenarios, all officers who have spent a certain amount of time in grade are placed on the promotion-eligible list. They are ranked on that list according to their recent job performance, and the top officers are selected. Similarly, in the competency-based scenarios, all officers who have met the criteria are placed on the promotion-eligible list and are ranked according to their recent job performance. Thus, job performance always determines which officers are selected for promotion. Performance also determines which officers are slated for commands. The average ability score for all officers in a grade gradually increases in higher grades, because higher-performing officers are more likely to be slated for commands that lead to rapid promotion and that lower the likelihood of separation or retirement; also, higher-performing officers are also more likely to be selected for promotion.

In the grade of O-1, the average ability score is about 5.5 because there is an equal probability of officers having an ability score of 1 to 10 at accession. Almost all of the officers reaching the grade of O-7 have an ability score of 10, with a handful having scores of 9 or 8.

The model makes retirement and promotion decisions two periods (the equivalent of one year) in advance. Each officer selected for promotion is promotable for two periods before finally changing grades, and each officer "decides" or is "told" to retire two periods before finally leaving active duty. This eases assignment decisions and makes it possible to slate officers for command in one grade while they are still in the lower grade. As a result, some officers might start an assignment in a job coded for the next-higher grade prior to promotion, and other officers might finish an assignment in a job coded for the next-lower grade after promotion. This has consequences for how officers become eligible for promotion in the competency-based scenarios. We cannot wait until the officers actually finish the qualifying assignments before selecting them for promotion. Instead, once they have been in the last of the qualifying assignments for at least six months, they are deemed to be qualified and they compete for promotion. If selected, they still spend another year in their current grade and, if necessary, in their current assignment before promotion to the next grade. At that point, if necessary, they spend their remaining time (typically just one more period if it is a four-period assignment) in the old job before being assigned to a job or PME coded for their new grade.

There are certain windows of time within which officers in a particular grade are expected to have in-residence PME or a command or another important assignment. For PME or an assignment for which officers are slated, if the officers have not yet met that milestone and are approaching the end of the window, they are taken out of their current assignment early in order for them to have the more important assignment.

In the time-based models, the promotion zone could be set to strictly adhere to promotion *timing* goals, or to strictly adhere to the promotion *opportunity* goals, or to strike some balance between the

two.[1] We chose to adhere to the promotion timing goals and to allow opportunity to be strictly an outcome. We made this decision for two reasons. First, this is what the services generally do. Second, the model treats the service communities as separate competitive categories; in reality, they are part of large competitive categories consisting of many more occupational communities. One of the key factors affecting promotion opportunity is grade structure, and these other communities that in real life are part of the same competitive category could be structured very differently than the ones under study.

Methods and Metrics

For each of the line communities, we produce a set of baseline results using business rules and quantitative inputs that are specific to each community and that govern the officer career-management system as a whole. We refer to this as our Baseline Scenario. We then change the inputs and compare the new model results to the Baseline Scenario and to other scenarios when appropriate.

Each scenario generates a rich set of results with which we can assess the likely impact of the policy changes under study. We analyze the modeling results from two perspectives. From the individual perspective, we calculate the average number and types of assignments held in each grade and throughout a career, the amount of time spent in each grade, the length of service, the opportunity for promotion, and the opportunity for command. From the organizational perspective, we calculate the average amount and types of experience found for officers who reach the grade of O-6. We chose O-6 because OSD is particularly interested in how different service communities build a "bench" for possible promotion to O-7, and also because of the notion that O-6s (captains in the Navy and colonels in the other services) are the first grade of senior leadership in their services. We calculate the

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[1] Technically, the promotion zones are to be set to provide a relatively equal opportunity for promotion over a five-year period, but because the model approaches a steady-state result, all officers have about the same opportunity, regardless of when the zone is set. In other words, there are no fluctuations in year groups due to expansions or reductions in force.

number of O-6s who have had specific assignments in the grades of O-4 and O-5, such as executive officer or joint duty, and the number of officers who have specific sequences of assignments in those same grades.

Representatives from the service communities, and other service members knowledgeable about the policies under study, participated in both the collection of inputs to the model and the analysis of the model's results. As noted above, we collected most inputs from the service communities themselves. Business rules, which tend not to be written down, emerged from discussions with community managers and personnel specialists. We generally do not change these rules from scenario to scenario. To take an example from the SWO community, an XO assignment as a lieutenant commander is always a prerequisite for CO, regardless of how we change the length of XO and CO assignments, the length of SWO careers, or anything else. As a more generic example, an officer who has been selected to have a command in his current grade but has not yet had that assignment is less likely to separate than an officer in the same-year group who has not been selected for command. The opportunities for command will vary depending on how long those assignments are, but the basic rule always holds. Once we had generated modeling results, we reviewed them with the service communities and discussed the feasibility and desirability of various outcomes, but we did not ask for an endorsement of the policy changes being studied.

A Note on the Use of Model Outputs

We aspire to a high degree of fidelity with reality with our model inputs and methods, but the model outputs do not necessarily match today's inventory of officers, except perhaps in aggregate numbers. In fact, we would not expect outputs to match existing numbers. Our model approximates a steady-state system, with the same number of authorizations, the same attrition rates, the same assignment lengths, and so forth, year after year after year. Reality, of course, is much less steady: Some of today's colonels and Navy captains entered military service

not long after the Vietnam War and prior to passage of DOPMA or the Goldwater-Nichols Act; today's lieutenant colonels and commanders first served when the United States was still engaged in the cold war with the Soviet Union and the services were in the midst of a huge force buildup; today's majors and lieutenant commanders served during the stock market surge of the 1990s, when many of their peers left to make their fortunes at a dot-com. Put simply, if our model attempted to perfectly replicate the unique events of the past, it would likely be useless in telling us anything about the future.

Having said that, we should also add that our model does not forecast the future (as an econometric model would profess to do, for example), nor does it tell us how things should be done to arrive at some optimal outcome (as a linear programming model would). Instead, this type of model helps one to understand how the world works when numerous variables interact in complex ways. Such a model provides the analytic support that enables a policymaker to transcend simple commonsense assertions when advocating change. To the extent that Congress, DoD, or the services wish to implement some of the policy changes examined in this monograph, the model can demonstrate the likely effects of those changes for individual officers and for the organizations that employ them.

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