2. Officer Requirements

This section evaluates the effects of the post–Cold War officer strength reduction and other environmental changes on future officer requirements. It also highlights the major results of our research into the military services’ manpower requirements generation processes and analysis of their current and projected officer requirements. It forms the basis for our determining potential future officer requirement options, which are in Section 3, and subsequent assessments of alternative officer career management systems.

Introduction

Congress has repeatedly expressed concern about the validity of the officer requirements contained in the DoD’s budget requests. This concern has been manifested in a variety of forms including report language, mandated studies, and statutory provisions governing the field grade content of the officer force at various end strengths. In view of this long-standing concern, this section begins by identifying the broad policies governing the officer requirements determination process and the five key factors that affect the size of the officer corps and the skills, levels of responsibility, and experience of the officers needed in the force. Three of these factors that could have the greatest potential effect on future officer requirements are then discussed. Having identified the overarching policy framework and major factors affecting the officer requirements determination process, we highlight the methodologies in use for determining which manpower positions require officers. Next, we describe the current military officer requirements for FY 1994 using common DoD skill categories and grades. The section concludes with a brief discussion of the officer career management system considerations that require added officer manpower that, when added to the officer requirements, determines total officer end strengths.

The Basis for Determining Military Officer Requirements

Military officer requirements—a subset of overall defense manpower requirements—are developed using broad policy guidance issued by DoD.¹

Current policy directs that military manpower requirements shall be constrained

¹The term “requirement” or “requirement for officers” as used in this study refers to the number of commissioned officers (grades O-1 through O-6) validated by the services in units and
to the minimum number necessary to meet vital national defense objectives, and that they shall be programmed to meet only essential requirements within the strengths established by the Secretary of Defense. In support of this objective, the guidance provides that a position requirement shall be designated as a military position only under the following conditions:

- The position requires a military incumbent for reasons of law, training, security, discipline, rotation, or combat readiness.
- The position is not appropriate for a civilian incumbent because it requires a general military background for successful task completion or it involves unusual duty hours that are not compatible with civilian employment.

Defense policy also directs the use of civilians in most other cases. There is also guidance on the use of contract personnel to perform the duties and functions of selected civilian manpower positions.²

Each of the military departments and services has developed a manpower requirements system to implement the DoD policy guidelines. These requirements systems provide quantitative (numbers of civilian, officer, warrant officer, and enlisted manpower positions) and qualitative (organization, skill, and grade for each military manpower position) definition of the total military manpower requirements of each department and service, including those for the reserve components.³ For this study we shall deal directly with only the officer active requirements (grades O-1 to O-6) that are generated by these systems. Subsequent discussion highlights the major features of these systems.

It is important to note here that the congressionally imposed grade limits in the Officer Grade Limitation Act (OGLA) and DOPMA, which are directed at the level-of-service total officer inventory, indirectly affect the grade aspect of officer requirements.⁴ These limitations have caused the services to periodically review the grade structures of officer requirements to assure that there is a reasonable opportunity to fill the required positions with officers of the proper grade. The organizations of the force structure that are planned to be filled with officer personnel. This number is fiscally constrained and reflected in the annual DoD Manpower Requirements Report and Future Years Defense Plan as “programmed manning.” Our use of the term officer requirement differs from the larger “programmed manpower structure,” which reflects the unconstrained number of billets describing the total officer manpower needs of the military services. We shall discuss later in this section the need for additional officers who are not planned to fill billets in the programmed manpower structure—individuals. Adapted from Department of Defense, Manpower Requirements Report, FY 1994, June 1993, pp. B-1 to B-3.

²Department of Defense, DoD Directive 1100.4, Guidance for Manpower Programs.
³Department of Defense, Military Manpower Requirements Study for Congress, 1986.
⁴RAND discussions with personnel and operations staff officers of the military services, May–September 1993.
result is that service officer requirements now reflect a grade structure that is largely consistent with the grade structure authorized by DOPMA for the respective service officer inventory.

**Key Determinants of Military and Officer Requirements**

The end of the Cold War had a major effect on the five primary determinants of officer requirements. Probably the most important change occurred in the national military strategy, because changes there directly affect most of the other determinants. Following the collapse of communism, the national military strategy shifted from containing Soviet aggression and maintaining a capability to fight a global war to one of deterring regional aggression and retaining the capability to fight two nearly simultaneous major regional contingencies (MRCs). This shift has led to sizable reductions in the overall forces, most particularly strategic nuclear units. But other active and reserve component units have been reduced as well, and the decline in active units makes the military more dependent on the reserves for a wide variety of capabilities. The increased dependence can have important implications for officer career management. A different strategic focus will require different missions, which may require different equipment and correspondingly different officer skills. Reduced funds and a desire to enhance capabilities through technology will force important choices about organizations and doctrine. These changes will in turn have a major effect on the numbers of officers required and the types of skills they will need. The sections that follow address the effects of these changes in greater detail.

The size of the officer corps and the skills, levels of responsibility, and experience of officers desired in the force are a function of many specific determinants. Our research, however, indicates that the following five major determinants are particularly significant because they broadly shape the outlines and content of defense manpower requirements in general and the numbers of officers—by service, grade, and skill—that are required in the force.

- National military strategy
- Organizational design and structures
- Doctrine and operational concepts
- Force size and active-reserve component force mix
- Technology.
These determinants, discussed in subsequent paragraphs, are clearly interdependent in their effect on officer requirements. For the most part, they can be viewed as external forces that the military departments and services attempt to influence but cannot unilaterally control. Coupled with current military department and service thinking about such considerations as officer responsibilities and career patterns, these determinants have a decided effect on the numbers, skills, and grades of officer requirements in the armed forces.

**National Military Strategy**

The national military strategy provides the overarching rationale for the military capabilities and forces contained in the DoD’s budget requests and establishes the broad strategic direction for the nation’s armed forces. Based on the president’s national security strategy, the projected international security environment, and domestic fiscal constraints, it is a singularly important document that identifies the fiscally constrained major capabilities and forces required to accomplish the national objectives with an acceptable level of risk in both the near term (budget year) and longer term (the next five years beyond the budget year).

The required capabilities and forces can loosely be categorized as direct and derived demands—the numbers and types of officers by service, grade, and skill required in the force are influenced by both types of demand. The direct demands include the types and numbers of major combat forces required for peacetime forward presence operations and the execution of contingency or wartime plans. They include Army divisions and corps; Navy carriers, surface combatants, nuclear submarines, and air wings; Air Force squadrons and wings; and Marine Expeditionary Brigades (MEBs) and Marine Expeditionary Forces (MEFs). Thus, the direct demands in effect are typically manifested in requirements for officers with war-fighting or combat-oriented skills and experience. The derived demands, which primarily are a function of the type and number of major combat force elements, include requirements for supporting forces, infrastructure, and overhead in the military departments and defense agencies. They typically are manifested in requirements for officers in what can be broadly classified as supporting skills (e.g., logistics, health services–related, and administration).

The thrust and focus of the national military strategy has had a decided effect on the numbers and types of units in the U.S. force structure and hence the officer requirements identified by each of the services. For example, U.S. national security planning and military strategy during the Cold War focused on containing Soviet aggression and defeating numerically superior forces in
Europe, the Far East, and Southwest Asia.\textsuperscript{5} This focus, coupled with Soviet capabilities and the threat of a short-notice attack, resulted in a nuclear triad; the maintenance of a large active and reserve component conventional force structure, particularly in the Army; a program to build a 600 ship navy; and the forward basing and deployment of significant numbers of U.S. military personnel in Europe and Korea. Each of the foregoing carried with it a demand for particular numbers of officers by service, grade, and skill. With the fall of the Berlin Wall, the dissolution of the Warsaw Pact and Soviet Union, and the resultant end of the Cold War, the threat that had provided the primary focus and foundation for defense planning for over 40 years abruptly dissipated.

In stark contrast to the Cold War strategy, the primary focus of the current strategy is on deterring potential regional threats and challenges to U.S. interests and maintaining the capability to fight and win two nearly simultaneous MRCs (e.g., a Korean conflict and a Southwest Asian conflict). The current strategy also envisions that U.S. forces will play an increasingly important role in international peacekeeping, peace enforcement, and humanitarian relief operations.

The new strategy requires somewhat different forces than were needed for global conflict. It requires well-trained, technologically superior forces that can be tailored into joint task forces and rapidly deployed on short notice to restore stability or decisively defeat threats to U.S. interests. In support of this, the new strategy calls for enhancements to supporting capabilities such as airlift; sealift; advanced munitions; battlefield surveillance; and command, control, and communications to halt a short-warning regional attack.\textsuperscript{6} It also places increased importance on the capabilities and potential contributions that can be made by the reserve components in all types of military operations.\textsuperscript{7}

The change in focus from a global to a regionally oriented national military strategy has led to reductions in major combat forces and their supporting forces and infrastructure. These reductions, which have already begun, will change the numbers of officers by service, grade, and skill required in the force.

\textit{Organizational Design and Structures}

The DoD consists of a myriad of hierarchically structured, pyramidal-shaped organizations. Each organization is designed to accomplish a particular mission

\textsuperscript{6}Ibid., pp. 9–10.
\textsuperscript{7}Ibid., p. 12.
or missions and requires specific numbers of people of certain grades and skills. The numbers, grades, and skills of the officers in each organizational structure are influenced by a variety of factors. Two, however, are particularly important and relevant to the focus of this study. These are the span of control and the guidelines governing the relationship between officer grade and level of responsibility. The former—typically stated as a range rather than a point estimate—establishes the number of subordinate units or people a person can effectively lead or manage. This range varies considerably and depends upon such factors as the mission(s) to be accomplished, the operational environment, the number of different functions included, the level of leadership or management oversight responsibility required, and the state of technology. Grade structure levels of responsibility guidelines, on the other hand, basically relate unit and position responsibilities to specific officer grades. For instance, battalion command in the Army and Marine Corps, squadron command in the Air Force, and command of certain Navy ships are typically designated as O-5 (lieutenant colonel or commander) positions.

Other influences affect organizational designs and structures and hence the demand for officers. The capabilities and tactics of potential opponents can shape organizational design. During the early 1980s, for example, DoD assessments of Soviet and U.S. capabilities indicated a significant wartime shortfall in U.S. medical capabilities. Accordingly, officer requirements for nurses, doctors, and other medical personnel were increased in the Army, Navy and Air Force.8 Also, the Army made several changes to its division organizational designs and structures during the mid-1980s. These changes, reflected in the “Division 86” organizational designs, primarily were attributable to perceived shortcomings against the projected Soviet threat.

Equipment can have an influence as well. In addition to a response to the Soviet threat, the Division 86 structure reflected the Army’s desire to exploit the improved capabilities of the new equipment that was being fielded in its divisions. Changes inspired by the new equipment included upgrading attack helicopter companies to attack helicopter battalions (more senior officer leadership and organizational planning capabilities) to enhance anti-armor capability of the equipment; increasing the staffing of several key supporting skills (notably intelligence and logistics) to offset known deficiencies; reorganizing divisional support commands to meet the increased logistical

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8Department of Defense, Defense Officer Requirements Study, March 1988, p. 34. Referring to the officer requirements growth that occurred from FY 1980 to FY 1986, the study found that 11 percent of Army officer growth, 22 percent of the Navy’s, and 18 percent of the Air Force’s were in medical-related skills.
demands associated with prosecuting the Army’s new AirLand Battle doctrine; and increasing the number of commissioned officers in battalion-level infantry, armor, and artillery units.\(^9\) Moreover, the Navy’s efforts to incorporate technologically improved, labor-saving propulsion and combat systems in new ships resulted in smaller ship complements and different enlisted-to-officer ratios. For instance, the Perry Class (FFG-7) frigate, in comparison to the older Knox Class (FF-1052) frigate, required a smaller total complement with a lower enlisted-to-officer ratio. This decline was largely attributable to enlisted requirements declining by a third more than officer requirements (the ratio on the Perry Class was 13 enlisted to 1 officer, down from about 18 to 1 on the Knox Class).\(^10\)

New missions can also influence organizations. Increased U.S. military involvement in space resulted in a demand for officers with highly specialized skills, particularly in the Air Force. For example, the military use of space missions required highly specialized officer education and experience to perform the primary planning and development functions associated with space doctrine and systems development.\(^11\)

As the Cold War drew to a close and the focus of the national security strategy shifted from the Soviet Union to a regional orientation, each of the services began to reevaluate its potential role in the emerging new national military strategy. Some of these efforts produced new organizational designs and structures like the Air Force composite wing and the Air Combat Command. The former is a new type of organization that includes several different types of aircraft (e.g., F-15s, F-16s, C-130s, bombers, and tankers) in contrast to the traditional single-aircraft squadron and wing structure—it therefore has created a different set of demands for officers by grade and skill at the wing level within the Air Force. For example, the wing commander is now a brigadier general, one grade higher than in the previous wing organization. The latter is a relatively new major command within the Air Force that combined elements of the Tactical Air Command, Strategic Air Command, and Military Airlift Command; in addition to streamlining and strengthening command and control lines within the Air Force, the new command has created a different set of demands (grades and skills) for officers.

The US Army ought to be looking at what kind of division will be dominating a conflict 15 years from now. The Army could consider

\(^9\)Ibid., p. 27.  
\(^10\)Ibid., p. 34.  
\(^11\)Ibid., p. 35.
a very different sort of division to take advantage of the US capability to engage enemy forces at extended ranges. Such divisions could be based on a combination of attack helicopters, extended range artillery, special operations forces and unmanned aerial vehicles. If we can create that kind of capability, the armor component, which has been the main element of many Army divisions, can act in a more traditional cavalry screening role, as opposed to the main decisive role.\textsuperscript{12}

\textbf{Force Size and Active-Reserve Component Force Mix}

The requirement or demand for officers is closely linked to the size and mix of the active and reserve component forces. The Total Force Policy, coupled with fiscal constraints and the national military strategy, has a major influence on the ultimate size and mix of forces among the active and reserve components. First articulated in conceptual terms in 1970, this policy seeks to maintain as small an active peacetime force as national security policy, military strategy, and overseas commitments permit. Thus, it requires the use of reserve component units and civilian employees and contractors whenever possible. In determining the most appropriate force mix, focus falls on the need for forces for (1) peacetime forward presence, (2) rapid crisis-response capabilities, (3) a hedge against the need to reconstitute forces, and (4) strategic deterrence.\textsuperscript{13} The mix of forces by component has a direct effect on the requirements for officers.

The shift from a focus on the global threat posed by the Soviet Union to a focus on potential regional threats and challenges is resulting in major reductions in both active and reserve component forces and end strengths.\textsuperscript{14} Strategic nuclear forces and capabilities are being scaled back as a result of arms control initiatives and the diminished likelihood of a global nuclear war. And conventional force levels are being reduced and sized to meet the projected demands of two nearly simultaneous MRCs and smaller forward presence requirements. Further, in support of the strategy and Total Force Policy, current plans seek to maximize the potential contribution of reserve component forces in the future. These plans,


which could create additional demands for active-duty officers to serve with, or in support of, reserve units,\textsuperscript{15} include

- Providing the Naval Reserve with more modern ships including an aircraft carrier, modern frigates, and new mine-counter mine ships.\textsuperscript{16}

- Expanding the roles of the Air Guard and reserve component to include more aerial refueling and airlift, a larger role in the air defense of the continental United States, and flying B-52 and B-1 bombers.\textsuperscript{17}

- Improving the readiness and flexibility of Army National Guard combat units and other reserve component forces so that they can be more readily available for MRCs and other tasks, including peacekeeping, peace enforcement, and humanitarian relief operations.\textsuperscript{18} Specific supporting programs include
  - Maintaining 37 brigades in the Army National Guard, 15 of which will be “enhanced readiness brigades” that will be expected to be ready for deployment in 90 days (considerably sooner than the current objectives for Army National Guard divisions)
  - Providing these brigades with more training with active-duty forces.\textsuperscript{19}

Current force structure plans—highlighted in Table 2.1—provide for a significantly different force in terms of both force size and mix compared with the FY 1990 force levels, which approximate the ending of the Cold War. The changes in major force elements highlighted have resulted in significant reductions in supporting units, infrastructure, and overhead that are not reflected in the table but directly affect the numbers, grades, and skills of officers required.

The FY 1999 planned force structure with end strength of approximately 1.4 million men and women will require significantly fewer officers than the Cold War force. That force peaked at 2.2 million in FY 1984, with officer requirements of about 310,000. Today’s structure has about 1.6 million personnel and officer requirements of about 203,000. Moreover, as this reduction progresses, the relative importance of some mission areas and capabilities, and hence the demands for officers with certain skills and grade levels, could shift significantly.

\textsuperscript{15}Ibid. The findings of the RAND study suggest that achieving the objective of 90 days will, among other things, require additional active-duty officer advisers.


\textsuperscript{17}Ibid.

\textsuperscript{18}Aspin, Bottom-Up Review, op. cit., p. 12.

Table 2.1


<table>
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<tr>
<th></th>
<th>FY 1990</th>
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<th>FY 1999</th>
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<tr>
<td><strong>Army</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Divisionsa</td>
<td>AC/RC</td>
<td>18/10</td>
<td>14/8</td>
</tr>
<tr>
<td>End strength (000s)</td>
<td>AC</td>
<td>750.6</td>
<td>588.3</td>
</tr>
<tr>
<td></td>
<td>RC</td>
<td>736.1</td>
<td>702.3</td>
</tr>
<tr>
<td><strong>Navy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carriers</td>
<td></td>
<td>15+1</td>
<td>13+1</td>
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<tr>
<td>Battle force ships</td>
<td></td>
<td>531c</td>
<td>434c</td>
</tr>
<tr>
<td>Air wings</td>
<td>AC/RC</td>
<td>13/2</td>
<td>11/2</td>
</tr>
<tr>
<td>End strength (000s)</td>
<td>AC</td>
<td>582.9</td>
<td>526.4</td>
</tr>
<tr>
<td></td>
<td>RC</td>
<td>149.4</td>
<td>133.7</td>
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<tr>
<td><strong>Air Force</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fighter wings</td>
<td>AC/RC</td>
<td>24/12</td>
<td>16/12</td>
</tr>
<tr>
<td>End strength (000s)</td>
<td>AC</td>
<td>539.3</td>
<td>449.9</td>
</tr>
<tr>
<td></td>
<td>RC</td>
<td>197.6</td>
<td>201.6</td>
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<td><strong>Marine Corps</strong></td>
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<tr>
<td>Divisions</td>
<td>AC/RC</td>
<td>3/1</td>
<td>3/1</td>
</tr>
<tr>
<td>End strength (000s)</td>
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<td>181.9</td>
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<td></td>
<td>RC</td>
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<tr>
<td><strong>Total</strong></td>
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<tr>
<td>End strength (000s)</td>
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<td>2,069.5</td>
<td>1,746.5</td>
</tr>
<tr>
<td></td>
<td>RC</td>
<td>1,127.6d</td>
<td>1,079.9</td>
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</table>


aFY 1990 and 1993 active component (AC) divisions include reserve component (RC) roundout units.

bNumbers are not available at this time.

cDoes not include carriers, which are shown separately.

dDoes not include 25,600 members of the Selected Reserve who were activated for Operation Desert Shield, displayed in the FY 1990 active strength total and paid for by the Active Military Personnel Appropriation.

Plans for both major force elements and end strength could be revised upward or downward because of unforeseen changes in the still evolving and dynamic post–Cold War global security environment.

**Doctrine and Operational Concepts**

U.S. doctrine and operational concepts are influenced by the national military strategy, employment considerations, and the opportunities provided by technological advances. During the Cold War, U.S. doctrine and operational concepts emphasized large-scale combined U.S. and allied operations. NATO-oriented operational planning, for example, involved significant numbers of U.S. and allied force “building blocks” organized along traditional land, sea, and air warfare lines (e.g., CENTAG, NAVSOUTH, CENTAF, etc.). This organization
resulted in a demand for skilled land, sea, and air warfare officers as opposed to skilled “joint” or multiservice-oriented officers. Simply put, because of the nature of the decisionmaking and operational structure, an Air Force wing or Army division commander (one and two star ranks, respectively) needed to know more about the organizational structure and operational concepts of their respective allied counterparts than they did about each other’s unique service structures and concepts. Thus, the manner in which the United States planned to conduct operations directly affected the types of forces needed and indirectly affected the numbers, skills, and grades of officers required.

In sharp contrast to the Cold War experience, today’s regionally oriented planning and thinking primarily focus on developing tailored multiservice or joint force packages. Specifically designed to meet projected mission needs, these joint force packages can range in size from several hundreds or thousands of personnel (Operations Just Cause, Provide Hope and Provide Comfort) to several hundreds of thousands of personnel (Operation Desert Shield/Desert Storm). Thus, when contrasted to the Cold War experience, the current military strategy and operational planning actually require that flag and field-grade officers have a much firmer understanding of the organizational concepts, structures, and capabilities of not only their own service, but also the other services.

Thus, considerable emphasis has been placed on the development of joint doctrine and operational concepts. The thrust of these efforts has been to establish fundamental principles to guide the structuring and employment of joint forces. These efforts have resulted in the writing of more than 75 new joint publications, including Joint Pub 1, Joint Warfare of the U.S. Armed Forces and the publication of a new professional journal, The Joint Force Quarterly. They have also spawned new joint employment concepts such as the Naval Expeditionary Force and Joint Adaptive Force Package concepts. The former provides for establishing tailored expeditionary force packages that maximize the flexibility and lethality of the Navy-Marine Corps team in both peacetime presence and littoral warfare operations. The latter concept envisions establishing joint task forces that are deployed to an operational area during a given time frame and supported by designated backup forces in the United States. This initiative, among other things, includes tailoring the mix of aircraft on carriers engaged in overseas presence operations to meet the needs of a particular deployment (e.g., reducing the numbers of fighter-attack aircraft on a carrier to make room for

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embarked Marines and additional helicopters) and does not require major adjustments to the major force elements of the services.\textsuperscript{21}

The new strategy’s emphasis on both joint and combined operations has created a requirement for officers who have a blend of both educational and actual experience in such matters. This requirement—which is above and beyond that typically associated with an officer’s career development pattern prior to 1986—is likely to become increasingly more important and difficult to satisfy as the size of the armed forces is reduced and countervailing pressures for increased specialization within the force continue or grow. This increased importance can be attributed in part to the changes that have occurred and are occurring in the area of organizational designs and structures and in part to the fact that defense leaders have stated that the forces for peacekeeping and peace enforcement will need specialized training, doctrine, and equipment.\textsuperscript{22}

**Technology**

The Cold War arms race resulted in the development and fielding of a broad array of technologically advanced systems and capabilities as each side sought to gain a deciding qualitative edge over the other. Moreover, U.S. efforts to proliferate these advances throughout the force as rapidly as possible resulted in the fielding of large numbers of similarly equipped or standardized “general-purpose” forces that were designed to accomplish a variety of missions. Thus, although requirements for greater specialization gradually emerged in the U.S. armed forces (e.g., the creation of an acquisition corps in each service), the overwhelming demand was for a highly professional body of officer “generalists” who possessed a broad range of skills and experience and could move from command to staff positions with relative ease. Hence, the state of technology is directly related to the requirements for officer skills.

As the Cold War began to wind down, defense leaders began to grapple with two problems. On the one hand, they had to decide how to fully exploit and adapt the broad spectrum of potential technological opportunities to military use. On the other hand, fiscal constraints dictated that fewer systems could be bought and placed increased emphasis on developing joint or multiservice weapons systems and platforms (as opposed to service-unique ones) that can perform multiple missions and on fielding superior command, control, communications,

\textsuperscript{21}Paul David Miller, “A New Mission for Atlantic Command,” *Joint Forces Quarterly*, Summer 1993, pp. 82–84.

\textsuperscript{22}Aspin, *Bottom-Up Review*, op. cit.
and intelligence (C⁴I) systems. The ultimate outcome of these countervailing forces cannot be predicted but could play out in a way suggested by the Vice Chairman of the Joint Chiefs of Staff.

Our new regional-crisis strategy frees us from the need to keep large, homogeneously equipped forces. Instead, we can now tolerate more unique units as a way to quickly integrate new technology and keep a warm industrial base, while holding down overall acquisition costs. Instead of insisting on a uniform force structure made up, say, of a single type of air superiority aircraft, we may sequence new acquisitions through the force. While overall this may produce a heterogeneous force, we could draw from it the right mixture of sophistication and mass appropriate to any particular crisis. The result may be more programs like the F-117 rather than the F-16, with our most highly advanced systems deployed in only a few selected units.²³

The Vice Chairman also suggests that technology in the form a vastly more capable C⁴I system may fundamentally change the way forces are commanded and controlled.

Our traditional methods have emphasized the flow of information along vertical paths: information up, orders and instructions down. But increasingly we have architectures in which information flows laterally as well. As a result, knowledge is more pervasive and control functions more decentralized. We have not yet come to grips with what this means organizationally, but we need to soon.²⁴

As the foregoing suggests, the state of fielded technology change could have markedly different effects and could result in two different types of forces and requirements for officers. The first is a high-technology specialist force. The second can be categorized as a high-technology generalist force. The high-technology specialist force would consist of relatively small numbers of many different types of advanced special-purpose platforms and weapons systems. This type of force would require numerous relatively small groups of highly specialized officers in all services, some more so than others. The high-technology generalist force would be characterized by advanced capabilities that simplified command and control and enhanced decisionmaking support and relatively large numbers of a few different types of advanced multipurpose platforms and weapons systems.

²⁴Ibid., pp. 34–35.
These two different types of force structures could place markedly different demands on the officer management system and cause decisionmakers to reconsider the appropriateness and viability of the generalist model. For example, the costs of developing and fielding technologically advanced platforms and capabilities, coupled with their annual operating and support costs, can be expected to increase demand for officer specialization in both the operational and support areas. From a purely return-on-investment standpoint, as the costs associated with officer specialization increase because of additional educational and training requirements, pressures could build for career patterns that get the maximum return from these specialists (e.g., through the use of repetitive assignments). Further, for cost-effectiveness reasons, increased costs and high technological rates of change could at some point cause senior decisionmakers to reassess the desirability of opening certain fields to civilians or contracting certain functions. Finally, breakthroughs in C4I could result in much flatter organizational designs, facilitate lower leader-to-led ratios, and change current field grade–company grade demand patterns.

In brief, although the specifics will change over time, it is clear that the focus is on providing the force of the future with an impressive array of technologically advanced platforms and capabilities. As these platforms and capabilities are fielded, they will tend to create a demand for increased specialization in particular areas and functions. This shift in demand, coupled with cost and return on investment considerations, could require senior decisionmakers to evaluate the relative merits of career patterns markedly different from today’s and the civilianizing or contracting of some areas and functions.

The Combined Effect of the Determinants on Officer End Strength and Grade Levels

The combined effect of these major determinants has significantly shifted officer requirements since the so-called Reagan “buildup.” As shown in Figure 2.1, officer requirements grew from their FY 1980 level of slightly more than 277,000 and peaked at almost 311,000 in FY 1986. They decreased thereafter and are expected to reach a level of slightly more than 203,000 in FY 1994. From FY 1990 to FY 1994, officer requirements will decrease by approximately 18 percent.

The trend in officer requirements roughly parallels the central thrust of the national military strategy and the changing world situation. It also reflects specific force size and mix decisions that changed the relative mix of officer
requirements within the overall force. An appreciation of the magnitude of these shifts can be gained by aggregating officer requirements into the 12 Defense Planning and Programming Categories (DPPCs), which are defined in Figure 2.2, and by comparing the changes that have occurred. DPPCs group officers (both warrant and commissioned) performing similar functions into mutually exclusive categories and are particularly useful in identifying trends and shifts in relative demand over time.

Recent trends and shifts in officer requirements by DPPC associated with the FY 1990 to FY 1994 reduction are highlighted in Figure 2.3. The officer requirements in all DPPCs except one—joint activities—decreased from FY 1990 to FY 1994. The largest decreases occurred in the tactical/mobility and strategic categories (the former decreased by about 22,000 requirements; the latter by almost 6,700). Officer requirements in the joint activities category increased by about 6,700. This is primarily attributable to the transfer and consolidation of certain functions previously performed by the military services (e.g., the consolidation of accounting and finance operations in the new Defense Finance and Accounting Service and contract management functions in the Defense Logistics Agency) and the inclusion of U.S. Special Operations Command officer requirements in this DPPC (these requirements formerly were reflected in the accounts of each military department).²⁵

<table>
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<tr>
<th>Category</th>
<th>Description</th>
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<tr>
<td>Strategic</td>
<td>Nuclear offensive, defensive, and control and surveillance forces</td>
</tr>
<tr>
<td>Tactical/mobility</td>
<td>Land forces, tactical air forces, naval forces, and mobility forces (special forces are imbedded in this DPPC)</td>
</tr>
<tr>
<td>Communications and intelligence</td>
<td>Centrally managed communications and intelligence-gathering activities</td>
</tr>
<tr>
<td>Combat installations</td>
<td>Operation and maintenance of installations of the strategic, tactical, airlift, and sealift commands</td>
</tr>
<tr>
<td>Force support training</td>
<td>Force-related training activities, including advanced flight training conducted by combat commands</td>
</tr>
<tr>
<td>Medical support</td>
<td>Medical care support in DoD regional medical facilities, including medical centers and labs, and care to qualified people in non-DoD facilities</td>
</tr>
<tr>
<td>Joint activities</td>
<td>Billets outside of service control, including the requirements of such organizations as the Joint Staff, Unified Commands, and defense agencies</td>
</tr>
<tr>
<td>Central logistics</td>
<td>Centrally managed supply, procurement, maintenance, and logistical support activities</td>
</tr>
<tr>
<td>Service management HQ</td>
<td>Service combat and support commands</td>
</tr>
<tr>
<td>Research and development</td>
<td>Major centralized R&amp;D and geophysical activities conducted under centralized DoD control</td>
</tr>
<tr>
<td>Training and personnel</td>
<td>Formal military training and education conducted under centralized control of each service and personnel support services</td>
</tr>
<tr>
<td>Support activities</td>
<td>Base operating support functions for support installations and centralized activities</td>
</tr>
</tbody>
</table>

Figure 2.2—Defense Planning and Programming Categories and Definitions

![Figure 2.2](image)

Figure 2.3—Changes in Officer Requirements by Defense Planning and Programming Category, FY 1990–FY 1994

![Figure 2.3](image)
The absolute numbers, though important, tend to mask the significant reductions made in each category. These reductions, highlighted in Figure 2.4, range from a low of –12 percent in the research and development category, to a high of –45 percent in the strategic category. The changes in each category generally reflect the new national military strategy and the deliberate downsizing of U.S. forces to a post–Cold War configuration. They also reflect efforts to streamline operations by closing bases and installations and consolidating functions.

The shift in requirements by DPPC suggests that a fundamental change in the relative demand and overall importance of certain types of officer requirements is under way. These initial changes, which are occurring within the relatively short span of about three to four years, have not yet stabilized. For instance, additional reductions in infrastructure and support activities are a clear objective of current defense leaders and will no doubt be identified as time progresses.26

Finally, although the full effect of the changes already set in motion probably is not yet fully reflected in the grade structure data, preliminary indications are that the distribution of officers by grade within the force has shifted upward from FY 1990 to FY 1994. Specifically, field-grade officer requirements are projected to account for about 44 percent of officer requirements in FY 1994; in FY 1990 they

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accounted for about 41 percent of the requirements. This increase in the relative grade structure of officer requirements can in part be attributed to the DOPMA grade tables, which are designed to provide a higher content of field-grade officers at lower total officer strengths, and to recent congressionally approved exceptions that authorize a higher field-grade content than the DOPMA tables. These exceptions, if sustained, could produce a comparatively more expensive force.

**How Major Determinants Might Change**

Although all five determinants will continue to influence the demand for officers in the future, some will have potentially greater effects than others. The following discussion highlights the projected potential effects of each determinant.

**National Military Strategy.** The current strategy is designed to deal with the challenges and uncertainties of the still evolving post–Cold War era. In this regard, with the possible exception of North Korea and a resurgent Iraq, the strategy rests on the assessment that few plausible major threats jeopardize U.S. vital interests, either today or in the near future. As a hedge, however, the strategy does call for the capability to respond to dramatically changed world conditions. Thus, although there may be some refinements and changes in emphasis, the basic thrusts of the strategy are unlikely to change dramatically during the remainder of this decade.

**Organizational Design and Structures.** Regional instabilities and the dynamic nature of the post–Cold War geopolitical environment will no doubt create demands for U.S. military participation in a variety of nontraditional missions and operations (e.g., peacekeeping and peace enforcement). New designs and structures will probably be required for these missions, and the lessons learned from such operations will no doubt result in further refinements. Moreover, it also is quite possible that current organizational designs and structures will be changed to reflect the projected demands of regionally oriented warfare and the effect of technological advances (e.g., reduced crew levels and leader-to-led ratios, and perhaps changes in traditional span-of-control limits as a result of advances in information and data management).

**Doctrine and Operational Concepts.** Recent changes in U.S. doctrine and operational concepts have tended to be more of a reaction to, rather than a cause of, major change in the other determinants. The “joint adaptive force package” concept, for example, seeks to capitalize on the inherent capabilities of existing service equipment and organizations rather than requiring major changes to them. Thus, although doctrine and operational concepts will no doubt evolve as a result of technological advances and innovations in organizational designs
(e.g., a high-technology, specialist force will require different operational concepts than a high-technology generalist force), these changes will probably continue to be a result of new opportunities rather than the initiator of major change.

**Force Size and Active-Reserve Component Force Mix.** Domestic fiscal constraints will continue to exist and exert a downward pressure on defense spending levels. In this regard, congressional pressure to eliminate or reduce perceived redundancies among the services (the roles, missions, and functions debate) can be expected to continue or intensify, particularly if the global strategic environment continues to improve. This pressure will also force defense decisionmakers to aggressively pursue organizational streamlining initiatives such as delayering, the consolidation or contracting out of functions, and the elimination of supporting infrastructure and overhead. On the other hand, it is logical to expect that U.S. force levels will be adjusted upward should the global strategic environment worsen significantly.

**Technology.** Finally, military leaders will undoubtedly seek to exploit the full potential of the new advanced systems and capabilities that will be fielded in the mid- and late 1990s. The spectrum of opportunities for technology-induced change is considerable. It includes a greater specialization of some major force elements and their supporting forces and infrastructure; evolutionary changes to current organizational designs and structures; and potentially some revolutionary changes, as new information and data management technologies and systems become available.

**Summary.** In conclusion, although all five determinants will continue to affect the demand for officers, the national military strategy and related doctrine and operational concepts are determinants that affect the demand for officers more at the macro-level, often with resultant changes in the other three determinants. Therefore, we shall consider only the other three determinants in detail for developing requirements options because they are more likely to directly affect the demand for officers in *specific skills and grades.* These three determinants are organizational design and structure, force size and active-reserve component force mix, and the state of technology.

**Determination of Officer Positions Within Total Military Requirements**

The five major determinants tend to establish the broad outlines of the military force and capabilities required to achieve U.S. national security objectives at an acceptable level of risk. When coupled with governing criteria regarding
responsibilities and grades, they establish requirements for specific numbers of officers in certain grades and skills. Our purpose here is not to critique but to report on the service process for determining officer requirements.

Historically, requirements for military officers have been based upon the need for leadership, especially command, in unique military tasks ranging from war-fighting to territorial exploration and development. In modern times, the basis for officer requirements has been expanded to include performance of tasks that are not unique to the military but are recognized as supporting functions necessary to accomplish the overall mission of military organizations. These supporting functions often require some general military knowledge and experience, some measure of leadership, or a relatively high level of responsibility and accountability.

Each of the services has developed and is using a unique process for determining its military manpower requirements. These processes and their supporting methodologies are based upon the five key determinants of military requirements just discussed and the broad policy guidance issued by the DoD. Each requirements generation process includes algorithms that are used to determine, first, essential military positions and, second, those positions that require officer leadership, skills, and experience. These processes also introduce and consider additional factors that affect whether a position must be filled by an officer. The first set of additional factors or criteria seeks to ensure compliance with statutory requirements. For instance, if the position requires command of military personnel, current statutes require that the position must be military and filled by a commissioned officer. The same holds true if the duties include the exercise of military discipline responsibilities required under the Uniform Code of Military Justice (UCMJ, Title 10, USC). The second set of criteria, based on both U.S. statute and DoD policy, has to do with the implementation or establishment of bilateral or multilateral agreements and international treaties such as provisions of the North Atlantic Treaty Organization (NATO). These criteria often require certain positions to be filled by military officers. Lastly, the level of managerial responsibility within the military organization itself may dictate that a military officer is required to ensure successful task completion.

The military services use their respective military manpower requirements generation processes at least biannually to develop the programmed manpower requirements contained in the DoD’s “president’s budget” submission. They also review their respective criteria for determining which positions require officers and reassess existing officer positions periodically. The Air Force’s ongoing officer requirements review is an example.
The methodology being used in the Air Staff review employs three principal evaluation criteria to determine whether an existing officer position should continue to be filled by an officer. The criteria, based upon an Air Staff and Command College Officer Requirements Study, designate an officer to fill a position if it requires

1. Command (positions with “A” prefix), including the exercise of UCMJ.
2. Developing war-fighting policy at the executive level in a noncommand position.
3. An accountable decisionmaker, including those military positions necessary to provide essential military leadership, oversight, and decisionmaking, and to sustain the career development pipeline of experienced officers to perform command and war-fighting policy requirements.  

The basic methodology and algorithm being employed in the Air Force review is schematically depicted in Figure 2.5.

All three criteria play an important role in the methodology. For instance, many junior officer positions clearly do not fit the first two criteria (command and war-fighting executive policy). The third criterion, which includes the need to ensure viable career patterns for sustaining the flow of experienced officers to more senior positions, enables some number of initial entry positions to be retained as valid officer requirements.

Though not shown in the schematic, the methodology being used also employs additional or secondary criteria. These are the risk inherent in performing the duties and responsibilities of a position, which is used to define military essentiality, and the level of accountability associated with the decisionmaking authority inherent in a position. Both criteria involve making subjective judgments to determine, first, if the position requires a civilian or military incumbent, and second, if the position could be filled by either an officer or an enlisted person. As initially envisioned, positions with high or medium risk and high or medium levels of accountability would be officer positions; low risk positions would be primarily civilian; and low levels of accountability positions would be primarily enlisted. Early results of the review also suggest that the two secondary criteria—risk and accountability—are particularly important in assessing positions requiring a broad range of supporting skills that are not unique to the Air Force or to the military in general. Finally, while somewhat

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premature to determine final quantitative results, the Air Staff expects that the review will result in the conversion of several officer positions to enlisted or civilian positions.28

An example of a similar algorithm for determining officer positions drawn from research on foreign military officer management systems illustrates a somewhat different approach. Figure 2.6, for example, depicts the algorithm being used by the British Royal Navy to determine which positions should be naval officers.

The British Royal Navy algorithm has two major sets of decision rules. The first set determines whether the position should be military or civilian. The key issue here is whether a position specifically requires performance of military tasks or needs military experience. That being established, the second set establishes the type and level of responsibility required (e.g., command at sea). Also, note that the current military knowledge required by the position is considered in deciding how to fulfill the military requirement (retired or reserve officers and ratings—enlisted—being possible alternatives). This approach provides a systematic way of determining the type (e.g., officer versus enlisted) and mix (e.g., civilian versus military) of manpower requirements.

28RAND discussions with officers of the USAF Air Staff, AF/DPXO, April–July 1993.
In brief then, the methodologies in use today within each service rest on a common core of standard service principles, basic criteria from statute, and the broad policy guidelines issued by the DoD. These processes, which were detailed in the congressionally mandated 1988 Officer Requirements Study, have varied little in principle during the intervening years.\textsuperscript{29} Further, although there are some clear differences in the specific factors and techniques used by the individual services, they appear to comply with DoD guidance and do not seem to warrant more detailed analysis in this officer career management study.

**Description of Current Military Officer Requirements**

In this subsection we describe the construction of current military officer requirements. We discuss the two major characteristics that are used to define officer billets: skill and grade. Then we provide a discussion of common DoD terms for dealing with the various service skills and illustrate the current officer force in this common skill categorization. Next, we introduce a set of skill

\textsuperscript{29}Department of Defense, *Defense Officer Requirements Study*, op. cit., pp. 15-23.
grouping definitions to simplify the numerous sets of service officer skills and illustrate how the current officer force fits these groupings. Lastly, we discuss how our officer requirements are transformed into total officer manpower requirements by adding the officer manpower needed to support officer career management functions such as training, education, assignment and reassignment moves, and other needs not reflected in documented structure positions.

For this study, we were provided the documented officer requirements of each of the four military services for three points in time: FY 1990, which roughly equates to the end of the Cold War; FY 1994, the congressionally approved position; and FY 1999, the end of the current future years defense program (FYDP) period. These sets of officer requirements reflect the officer needs of each service over a period of time that encompasses significant change. We consider them to be reasonably valid representations of the officer requirements of each service and have used them to model potential alternative future requirements for officers. The information describing the military officer positions and requirements provided by each service contains the major data elements shown below.

**Skill:**
- Military Occupational Specialty (MOS)—Army and U.S. Marine Corps (USMC)
- Air Force Specialty Code (AFSC)—U.S. Air Force (USAF)
- Officer Billet Designator Codes (OBDC) and Naval Officer Billet Classification (NOBC)—Navy

**Grade:**
- Standard U.S. military grades O-1 through O-6 and flag officers O-7 through O-10. (For this study we will omit flag officer positions.)

Each of the military services uses different skill designators, and reasonable comparisons using these designators are virtually impossible. DoD has, however, developed standard DoD Occupational Codes (DoDOCs) to aid in

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30 See Appendix A for a discussion of how these military officer requirements for the given periods from each of the respective military services were used to model the future officer requirements options.

comparing the officer skill requirements throughout the defense establishment. The DoDOC categorization classifies officer positions into the nine major occupational areas shown in Table 2.2. Each of these categories can be further broken down into subcategories that can be cross-referenced to the specific skill identifiers in use in each service.

### Table 2.2

<table>
<thead>
<tr>
<th>Code</th>
<th>Occupational Area Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General officers and executives</td>
</tr>
<tr>
<td>2</td>
<td>Tactical operations officers</td>
</tr>
<tr>
<td>3</td>
<td>Intelligence officers</td>
</tr>
<tr>
<td>4</td>
<td>Engineering and maintenance officers</td>
</tr>
<tr>
<td>5</td>
<td>Scientists and professionals</td>
</tr>
<tr>
<td>6</td>
<td>Health care officers</td>
</tr>
<tr>
<td>7</td>
<td>Administrators</td>
</tr>
<tr>
<td>8</td>
<td>Supply, procurement and allied officers</td>
</tr>
<tr>
<td>9</td>
<td>Nonoccupational (also includes patients, students, trainees)</td>
</tr>
</tbody>
</table>

**Composite Skill Content by DoDOC for FY 1994 Programmed Officer Manpower Requirements**

Using the respective military service conversion guidance, we aggregated the individual officer skills and grades of each service’s officer positions into the standard DoDOCs. This process facilitated defense-level comparisons and analysis and enabled us to estimate alternative future officer requirements. The resulting aggregation of officer requirements by DoDOC are summarized in Table 2.3.

An analysis of the DoDOCs and grades reveals that about 36 percent of all officer requirements are in the tactical operations and intelligence categories (DoDOCs 2 and 3, respectively). These two occupational areas are generally seen as requiring unique skills related to war-fighting. They include requirements for officer pilots and air crews for fighter and bomber aircraft, naval warship complements, ground combat tasks, and a variety of intelligence gathering and analysis tasks. These skills, along with some other skills in occupational areas 4, 5, 7, and 8, largely depend upon the career management processes of the individual services. They are typically referred to as the “line” portion of the

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32Ibid., pp. xv–xvii.
Table 2.3
Baseline Force (Grade and DoDOC) Department of Defense Military Officer Requirements, FY 1994a

<table>
<thead>
<tr>
<th>DODOC Area</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O-1b</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>695</td>
</tr>
<tr>
<td>3</td>
<td>180</td>
</tr>
<tr>
<td>4</td>
<td>1,530</td>
</tr>
<tr>
<td>5</td>
<td>145</td>
</tr>
<tr>
<td>6</td>
<td>450</td>
</tr>
<tr>
<td>7</td>
<td>370</td>
</tr>
<tr>
<td>8</td>
<td>260</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>3,630</td>
</tr>
</tbody>
</table>

SOURCE: Extracts from “U.S. Military Manpower Requirements Projection Data 1990-1999,” provided to the Logistics Management Institute (LMI) from the four military services under the auspices of the Assistant Secretary of Defense for Personnel and Readiness, September–October 1993.
aUsing Naval Officer Billet Classification-Duty DoDOC (includes technical officer requirements).

military services. Using current definitions, line positions would account for 70 percent of the total military officer requirements projected for the end of FY 1994.

Also noteworthy is the fact that the so-called “professions,” which focus on medical, dental, legal, and chaplain skills within the military, account for a significant percentage of the total military officer requirements. These skills make up a large portion of officer positions in occupational area 5 and all of the positions in occupational area 6, amounting to about 22 percent of the total officer requirements. The USMC is somewhat unique in that, with the exception of legal officers, it relies on the U.S. Navy to provide officer positions for skills in the professions. As a result, the USMC has only slightly more than 2 percent of its officers within the professions while the other services range from a low of about 20 percent for the USAF to a high of almost 27 percent in the U.S. Army. In recent years’ defense authorizations, Congress has excluded medical officer skills from sharing in force structure reductions. This exclusion has contributed to the corresponding increases in the percentage of officer requirements within occupational area 6 (health care officers) and those in the larger inclusive category of the professions.34

The remaining officer requirements, although less than 8 percent of the total, provide some interesting insights for developing alternative future officer requirements because they illustrate the concept of managing officers by separate skill group. These other officer positions, not within the line or professional categories, are primarily found in the U.S. Navy and receive separate management due to special skill requirements or restrictions on the assignment patterns for officer incumbents. The Navy and the USMC (for one officer type) use the following terms to describe these other management groupings: Staff corps (which includes all of the professions), limited duty officers (LDO, both staff and line), and restricted line officers (engineering and special duty officers). Officer position or billet requirements include these management categories, but it is the officers within these categories who are affected by special management policies, usually by being restricted to assignments in only selected fields or skills. The rationale for this management is generally based on one of three criteria: (1) the naval branch assigned at commissioning (e.g., supply); (2) the length and cost of training, experience and education (e.g., aeronautical engineering); and (3) the limitations on experience developed prior to commissioning as enlisted or warrant officer (e.g., LDO). These category distinctions, coupled with the similar characteristics of various skills, will be the basis for estimating alternative future officer requirements.

Another category of officer requires consideration. In recent legislation, Congress directed the DoD to form a professional Acquisition Corps of qualified military and civilian officials within the military services to improve the competency of personnel involved in defense materiel development and procurement activities. Subsequently, each military department has established personnel management criteria for its respective acquisition officers. The specific demands of the law to ensure requisite experience and educational development of acquisition officers are expected to lead to the specialization of officers in acquisition program management and allied research and development skills.

**Current Military Officer Skills**

To better assist the understanding of current officer requirements at various levels of aggregation and to support estimating future officer requirement alternatives, we have designed six major skill groupings that capture most aspects of the current service officer management systems. These skill groupings are not recognized in any uniform official policy, but they generally describe broad aggregations of officer requirements. These skill groupings—line,
specialist, support, professional, acquisition, and technical—are defined in Figure 2.7.35

As discussed previously, most of the officer skills in the Army, Air Force, and Marine Corps are managed as elements of the line or professional categories. The Acquisition Corps applies to all military services and is still a rather new officer management activity. Although it may not yet have received separate management status in all the services, acquisition positions can be identified within each service’s officer requirements.

<table>
<thead>
<tr>
<th>Line</th>
<th>Unique military skills, particularly those directly involved in combat operations and related military functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist</td>
<td>Any military skills also requiring recurring assignments and utilization due to advanced education, high cost, long-duration training, or experience (e.g., engineering)</td>
</tr>
<tr>
<td>Support</td>
<td>Skills generally analogous to civilian white-collar occupations needed to support the functioning of military organizations where general military experience is desired or will assist task performance</td>
</tr>
<tr>
<td>Professional</td>
<td>Civilian professional skills not usually requiring any significant military experience (e.g., medical, dental, legal, and chaplain)</td>
</tr>
<tr>
<td>Acquisition</td>
<td>Military skills specializing in acquisition project management and allied procurement and research and development</td>
</tr>
<tr>
<td>Technical</td>
<td>Military skills with career or assignment limitations, e.g., restricted to a narrow field progressing from enlisted or warrant skills and limited in level of responsibility (e.g., naval services LDOs)</td>
</tr>
</tbody>
</table>

Figure 2.7—Design Definition of Officer Skill Groupings

35The titles used to name and describe the skill groupings in our construct, in some cases, have already well established meanings with lengthy history or cultural acceptance within the military. The primary purpose of our use of these terms is to define distinct sets of officer requirements in large aggregate groupings with skill characteristics common to all services that suggest the need for separate career management activities. For example, we intend that the term line be used to classify one set of unique military skills generally acquired through established military education, training, and experience. We recognize that this use of the term line has a different meaning than its historical antecedent. We do not include the more common notion of line as the only group of officers that can exercise command. The latter usage has lengthy history in the military service, especially in the sea services, but is not intended here to be restrictive. Positions that include the exercise of command may be in any skill grouping, and our line would certainly include any officer requirements of that nature not elsewhere considered. For instance, the position of commander for a specialized organization that required the lengthy education and training of a “specialist” would be in the specialist skill grouping. Adherence to our explicit definitions and usage is essential to prevent possible confusion.
Table 2.4 shows the current requirements for military officers aggregated in our six skill groups by grade and service. This distribution uses a composite of the existing personnel management policies of the military services and applies the potential future effect of the law governing service acquisition personnel. Again, it is recognized that the military services do not yet have a mature management system for acquisition positions. The numbers shown in each cell of the matrix are derived from the FY 1994 documented officer manpower requirements of each military service and are distributed by category according to our understanding of the policies of the individual service as previously discussed.

The U.S. Navy would use different definitions than those chosen here for our purposes, and these differences are reflected in Table 2.4. The numbers appearing in the specialist and support categories are included in the line category for the other services. The requirements reflected in the technical category represent LDO requirements, which have no comparable requirement in the other services. We include the Navy skill groupings here because they illustrate many of the Navy’s existing management groups. In our design construct, for example, the technical skill grouping is analogous to the group of LDO billets; the support skill grouping is analogous to much of the Staff Corps, less billets placed in professionals for uniformity; and the Specialist Corps would closely equate to most of the restricted line billets in engineering, aeronautical engineering, and special duty.36 While each of the other military services has officer skill requirements that would meet the definitions of these latter skill groupings that are attributed primarily to the Navy, they manage them within either line or professional categories (e.g., Army, Air Force, and

<table>
<thead>
<tr>
<th>Major Skill Grouping</th>
<th>Army</th>
<th>USAF</th>
<th>Navy</th>
<th>USMC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line</td>
<td>42,030</td>
<td>56,970</td>
<td>31,100</td>
<td>12,660</td>
<td>142,760</td>
</tr>
<tr>
<td>Specialist</td>
<td>0</td>
<td>0</td>
<td>2,340</td>
<td>0</td>
<td>2,340</td>
</tr>
<tr>
<td>Support</td>
<td>0</td>
<td>0</td>
<td>4,500</td>
<td>0</td>
<td>4,500</td>
</tr>
<tr>
<td>Professional</td>
<td>16,280</td>
<td>15,090</td>
<td>12,080</td>
<td>0</td>
<td>43,770</td>
</tr>
<tr>
<td>Acquisition</td>
<td>2,420</td>
<td>3,540</td>
<td>1,040</td>
<td>300</td>
<td>7,300</td>
</tr>
<tr>
<td>Technical</td>
<td>0</td>
<td>0</td>
<td>2,680</td>
<td>0</td>
<td>2,680</td>
</tr>
<tr>
<td>Total</td>
<td>60,730</td>
<td>75,600</td>
<td>53,740</td>
<td>13,280</td>
<td>203,350</td>
</tr>
</tbody>
</table>

NOTE: Numbers reflect current service uses of separate skill groups.

Marines have support skills as defined by that grouping, but treat officers in these skills as part of the line).

**Composite Grade Content for FY 1994 Programmed Officer Manpower Requirements**

Grade structure is the second major characteristic of military officer requirements. These grade distributions result from controls Congress mandated in DOPMA through the use of individual service grade structure tables limiting the proportion of total active regular officers allowed in the field grade ranks. For the end of FY 1994, the composite requirement for field grade officer positions is about 44 percent, with 23 percent of the total officer requirements at O-4 (major and lieutenant commander); 15 percent at the grade of O-5 (lieutenant colonel and commander); and 6 percent at the grade of O-6 (colonel and captain, Navy). The junior grades of O-1 through O-3 are projected to account for some 56 percent of officer requirements in FY 1994. These junior officer grade positions are filled by officers with experience levels ranging from entry to a maximum of 11 years of service in the military unless specifically selected for further service in those grades. The requirements for officers within the field-grade officer ranks cover an officer experience range of 10 to 30 years. Trends in the changes to field-grade content within officer requirements are an important consideration in projecting officer needs for future force alternatives. Service senior officials have generally stated a common desire for an increased field-grade content in the smaller programmed force, even higher than that allowed in DOPMA, to ensure the ability to support a potential expansion or reconstitution of their force structure over a short period such as 5 to 10 years.

**Total Programmed Officer Manpower Requirements and the Individual Accounts**

Total defense officer manpower, or programmed officer end strength, is the sum of the programmed manpower structure positions by skill and grade—officer requirements—and the additional officer manpower needed to support career management functions such as training, education, assignment and reassignment.

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38 Based on DOPMA promotion timing, promotion opportunity, and tenure points for mandatory retirement.
39 Discussions with senior personnel management officials from all four military services, May–September 1993.
moves, and other needs not reflected in documented structure positions. The latter set of officer manpower requirements are the sum of transients, trainees, holdees, prisoners, patients, and students (TTHS) accounts often referred to as the “individuals” or “individual accounts.” For example, the FY 1994 total military officer end strength is about 245,000 compared with officer requirements of about 203,000; and the difference, about 42,000 officers, reflects the individuals.

DoD defines “officer individuals” as those officers not filling programmed manpower structure spaces. They are often characterized as the slack in the inventory needed to overcome the friction in the manpower system.40

Figure 2.8 below displays the individual accounts for the military services as a percentage of their respective total active officer end strengths during the 14-year period from FY 1978 to 1992. The data, extracted for comparison from DoD manpower reports, provide service trends that appear relatively stable in spite of the changes in size caused by the Reagan buildup and the start of the post–Cold War drawdown. Linear regression analysis of these data yields individual service officer manpower requirement proportions needed to estimate

![Figure 2.8—Distribution of Officers by Military Service for FY 1978–1992 Reported in the Individual Accounts](image)

SOURCE: LMI analysis, data extracted from Defense Manpower Data Center reports, and data provided by the four U.S. military services.

future officer force alternatives at appropriate sizes above the officer requirements options that are developed in Section 3.\textsuperscript{41}

We also examined the projected estimates of the individual accounts for the services programmed through the end of the FYDP in FY 1999. These estimates were of interest since they manifest projected policy changes that could significantly alter the historical rates. Next, we combined both the historical and projected data on individual accounts to smooth the potential effects of policies designed primarily for the transition period. Lastly, we performed regression analysis on both sets of data for comparison with the historical rates.

The regression analysis provides the values shown in Table 2.5. Examination of these values suggests that they are likely to be invariant, or vary little, with other changes in the future. However, major changes in strategy and policy can directly affect the component elements of the individual accounts. Specifically, major changes in policy on officer education (numbers of required courses, frequency, and duration); changes in policies affecting the lengths and numbers of overseas tours, rotation, or movement of officers; and the direct and indirect effects of the general resource posture and the national military strategy will no doubt be able to change these percentages. Many of these factors are realized in the changes in size and skill content of the officer structure. Additionally, the regression analysis was performed over a period that contained significant change and is designed to dampen out the effects of change in any one year or average the changes in a period of several years.

Senior military personnel officials suggest that the transient and student requirements are likely to be the most affected components of the individual accounts and the changes tend to offset each other.\textsuperscript{42} The transient account is expected to decrease because of major reductions in overseas presence, i.e., less demand for rotational moves and the potential effect of budget tightening, which is expected to lead to longer tour lengths and increased stabilization. The officer student requirements, on the other hand, are expected to increase as a result of pressures to ensure officer development through longer career involvement in both military and higher civilian education, especially if increased stability begins to limit the development of broad military experience normally obtained

\textsuperscript{41}For this linear regression, the independent variable is the service officer end strength and the dependent variable is that portion of the officer strength within the individual accounts. Since a null officer strength would constrain the individual accounts to the null set, the regression line intercepts the origin and has the linear equation form of $y = mx$. Table 2.5 displays the service individual accounts as percentages of the total officer strengths as determined by the regression analysis for both the historical data period and the combined period that includes the service projected data.

\textsuperscript{42}RAND discussions with Army and Air Force senior staff personnel officials, May–August 1993.
Table 2.5
Results of Regression Analysis of Military Service Officer Individual Accounts
(in percentage)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Army</td>
<td>14.7</td>
<td>15.7</td>
<td>14.9</td>
</tr>
<tr>
<td>Navy</td>
<td>18.9</td>
<td>15.5</td>
<td>18.2</td>
</tr>
<tr>
<td>Air Force</td>
<td>10.4</td>
<td>10.0</td>
<td>10.3</td>
</tr>
<tr>
<td>Marine Corps</td>
<td>17.9</td>
<td>14.5</td>
<td>17.0</td>
</tr>
</tbody>
</table>

NOTE: Service individual accounts as a percentage of total end strength.

through a wide variety of job assignments. Additionally, the need in the future for new officer skills to support new missions such as peacekeeping or requirements for increased specialization as a result of technology advances may further increase the number of officer requirements in the student account. These two trends, one likely to increase requirements and the other likely to decrease them, have the potential to nullify any major shift in the historical behavior of service individual accounts. Without the benefit of knowledge of future decisions on these policies, it appears reasonable to use the individual account rates derived from past experience and recognize the potential effect of such changes.

Accordingly, we applied the service-unique combined TTHS percentages derived from the regression analysis over the entire period of FY 1978–1999 as the best estimate of the future individual accounts. We used these rates, in conjunction with estimated future officer requirements, to develop total officer requirements for use in subsequent evaluations. The alternative career management systems we designed in later sections are evaluated on their capacity to manage the larger set of total defense officer manpower requirements.