RESULTS OF THE SUPPLY-SIDE ANALYSIS

To meet the supply-side research goal of determining how many of the positions with joint content the services could support, we followed Tasks 5–7 shown in the general approach in Chapter One; based on those tasks, we asked a series of research questions:

- What factors affect the services’ ability to support the current JDAL?
- What effect would changes in law and policy have on the size of a supportable JDAL?
- Given these constraints and hindrances, what size JDAL can the services support?

The answers to these questions are discussed below.

SUPPORTABILITY ISSUES RELATED TO GOLDWATER-NICHOLS

Our supportability analysis included issues related to the requirements of the law. Although all services currently experience shortages in the numbers, grades, and skills of officers to meet the demands from both in-service and outside-service organizations, we feel these shortages are not directly associated with joint duty assignments. The Goldwater-Nichols legislation did not create new demands for officers; it simply distinguished between the existing demands for personnel. If a billet does not qualify for a joint duty assignment, the demand does not go away (although the services may choose to fill nonjoint demands at a lower rate). Likewise, des-
ignating an existing billet as being on the JDAL does not create a new demand for an officer with a specific grade and skill.

There are two types of requirements specified by the legislation that do affect the services’ ability to support joint duty assignments. The first is associated with the requirement that certain types of officers either fill specific positions on the JDAL (e.g., JSOs must fill critical billets) or fill a minimum percentage of the overall joint duty positions (e.g., 50 percent of the JDAL must be filled by JSOs or JSO noms). This is a “hard constraint” in that the services must be able to “grow” sufficient numbers of the right kinds of officers.

The second requirement is associated with the promotion objectives specified in the law. These objectives were designed to ensure that “quality” officers were shared between the service and the joint worlds and that officers were not disadvantaged by serving joint tours. In many ways, these promotion objectives are the real “teeth” in Goldwater-Nichols. They require that the services carefully manage the officers that are assigned to joint positions.

**CURRENT LAW CONSTRAINS JDAL SUPPORTABILITY**

Goldwater-Nichols created a new category of officers, termed JSOs, who are to be “particularly trained in, and oriented towards, joint matters.” Prerequisites to becoming a JSO include successfully completing a program at a JPME\(^1\) school and, after completing such a program, serving a full tour in a JDA. After completing JPME, the officer can serve in a JDA as a “JSO nominee.” After completion of the joint tour, these JSO noms are selected by their services as JSOs. Final approval of the selections rests with the Secretary of Defense with the advice of the Chairman of the Joint Chiefs of Staff. The law stipulates that at least 50 percent of the positions on the JDAL above

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\(^{1}\)JPME Phase I is part of intermediate- or senior-level courses at the service colleges. JPME Phase II is provided by the Armed Forces Staff College (AFSC) in a three-month, resident-only course. The National War College (NWC) and the Industrial College of the Armed Forces (ICAF) provide both JPME Phase I and Phase II in their ten-month resident courses.
the grade of O-3 be filled by JSOs or officers nominated as JSOs (termed JSO noms).\footnote{JSO nominees have either (1) successfully completed JPME but have not yet served a full JDA tour or (2) a military occupational specialty that has been designated as a Critical Occupational Specialty involving combat operations.}

In addition, the law allows the services to fill not more than 12.5 percent (25 percent of the 50 percent discussed above) of the total JDAL positions with Critical Occupational Specialty (COS) Exception JSO noms—officers the Secretary of Defense identified who were directly connected with combat arms (or analogous operations) and who needed to concentrate on developing, maintaining, and then passing on to others specific warfighting skills. Such COS Exceptions are allowed to reverse the order of the prerequisites needed to become a JSO (i.e., COS officers could first serve in a JDA and then attend a JPME school).\footnote{Non-COS officers could also attain JSO status by first completing a joint tour and then attending JPME. Any officer could also qualify by serving two complete JDA tours. Both of these paths to becoming a JSO require a waiver by the Secretary of Defense. The educational requirement could be waived if the Secretary of Defense determined that it was impractical for the officer to complete JPME at the current stage of his or her career and that the types of JDAs completed by the officer were “of sufficient breadth to prepare the officer adequately for the joint specialty.”}

Goldwater-Nichols also specified that the Secretary designate at least 1000 of the positions on the JDAL as Critical Joint Duty Assignment (CJDA) positions. These positions were to be identified by examining each joint duty position and designating those for which, considering the duties and responsibilities of the position, it was “highly important that the occupant be particularly trained in, and oriented toward, joint matters.” Initially, 80 percent of the positions were to be filled by JSOs, but by January 1, 1994, JSOs were to be assigned to 100 percent of the critical positions.

These aspects of the current law constrain the services' ability to support the current JDAL by requiring that certain types of officers fill specific JDAL positions (i.e., critical positions) or have minimum representation on the overall list.
JPME QUOTAS CONSTRAIN JDAL SUPPORTABILITY

Four curricula satisfy the requirement for JPME: Armed Forces Staff College Intermediate, Armed Forces Staff College Senior, the National War College, and the Industrial College of the Armed Forces. Both of the AFSC courses require completion of service college at the intermediate or senior level (JPME Phase I), and both courses are three months long. NWC and ICAF programs are approximately ten months long and satisfy all requirements for JPME I and II. Quotas for each of the courses for 1994 are shown in Table 3.1.

SERVICE ASSIGNMENT POLICY CONSTRAINS JDAL SUPPORTABILITY

As shown in Table 3.2, the maximum number of JPME graduates that could be assigned to JDAs each year is the total quota of 1089. However, a 100 percent assignment policy to a JDA after completion of JPME is probably an unreasonable expectation, given the need for NWC and ICAF graduates within the services. The legal minimum assignment policy is 50 percent; however, three of the four services assign 80-84 percent of JPME graduates to JDAs immediately following JPME completion. Further, when the JPME graduates who serve in service assignments before assignment to a JDA are included in

Table 3.1
1994 JPME Quotas by Servicea

<table>
<thead>
<tr>
<th>Curricula</th>
<th>Army</th>
<th>Navy</th>
<th>Air Force</th>
<th>Marine Corps</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWC</td>
<td>43</td>
<td>30</td>
<td>41</td>
<td>11</td>
<td>125</td>
</tr>
<tr>
<td>ICAF</td>
<td>60</td>
<td>43</td>
<td>58</td>
<td>11</td>
<td>172</td>
</tr>
<tr>
<td>AFSC (Int)</td>
<td>240</td>
<td>150</td>
<td>273</td>
<td>39</td>
<td>702</td>
</tr>
<tr>
<td>AFSC (Sr)</td>
<td>21</td>
<td>39</td>
<td>24</td>
<td>6</td>
<td>90</td>
</tr>
<tr>
<td>Total</td>
<td>364</td>
<td>262</td>
<td>396</td>
<td>67</td>
<td>1089</td>
</tr>
</tbody>
</table>

aThe two AFSC courses are structured to accommodate 900 students annually. The current allocation of 792 seats is a reflection of insufficient manning of military faculty positions. Although the services have requested more quotas for students, the services were unable, or unwilling, to assign additional faculty needed to support the additional quotas.
Table 3.2

<table>
<thead>
<tr>
<th>Assignment Policy(%)</th>
<th>Annual JSO Noms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum (100)</td>
<td>1089</td>
</tr>
<tr>
<td>Legal minimum (50)</td>
<td>545</td>
</tr>
<tr>
<td>Realistic (83)</td>
<td>904</td>
</tr>
</tbody>
</table>

The numbers, all the services have an 80–85 percent assignment policy. Thus, we have adopted 83 percent as a realistic assignment policy for JPME graduates after education. This policy translates to a 50 percent joint assignment rate for NWC and ICAF graduates and a 95 percent joint assignment rate for AFSC graduates.

Table 3.2 shows how these differing assignment policies affect the number of JSO noms produced.

We next examine how these three major factors affect the size of the JDAL that the services can support.

SERVICES COULD SUPPORT A JDAL OF APPROXIMATELY 10,000 POSITIONS

None of the constraining factors discussed above—current law, JPME output, and current service assignment policy—prevent the services from supporting a JDAL about 10 percent larger than the current size (approximately 9100 positions). We arrived at this conclusion after developing a systems dynamics model to examine the problems of JSO and JSO nom development.4

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4See MR-593-JS, How Many Can Be Joint? Supporting Joint Duty Assignments, for a complete discussion of the modeling effort.
Services Can Produce Sufficient Numbers of JSOs for Critical Billets

Based on the model results, we find that the services can produce a sufficient supply of JSOs to fill the 1000 CJDA positions required by current law. Although there are varying opinions of what is “sufficient,” in general, the services seem to agree that they would have problems with a selectivity ratio\(^5\) of less than 3:1 (i.e., three officers who could be assigned for each critical billet). A ratio of 5:1 would make it easier to fill the billets, and 7:1 or more is better. Based on our modeling efforts, the services can accumulate enough JSOs (or officers eligible to be selected as JSOs) to fill future critical billets for which they are currently responsible with at least a 5:1 selectivity ratio, which should be sufficient.\(^6\) Figures 3.1 through 3.4 show the results for the various services.

The shaded areas in the figures indicate the projected pool of JSOs, given a continuation of current policies. The pool of officers who will be eligible for JSO is represented by the cross-hatched areas. Eligibles are officers who have completed JPME and a joint tour but have not been selected for JSO. As the figures show, current processes should provide an adequate supply of JSOs.\(^7\)

\(^5\)Analysts in some of the services use this concept to measure supportability, and we have extended the concept into our analysis of all the military services. The selectivity ratio represents the number of officers—either JSO or someone eligible to be a JSO because they have met all requirements except formal designation—available to fill all critical positions.

\(^6\)The ratio could be higher, potentially much higher, if the method described in Chapter Two is used to determine critical billets.

\(^7\)There are several caveats to the graphical representation of JSO supply. First, the near-term numbers include transition JSOs, and thus may be misleading. Second, the 1998–2001 time period will be the most difficult for the services, and could be even more difficult than indicated graphically if the loss rates assumptions should change.
Results of the Supply-Side Analysis

Figure 3.1—Navy JSOs/JSO Eligibles

Figure 3.2—Army JSOs/JSO Eligibles
Figure 3.3—Air Force JSOs/JSO Eligibles

Figure 3.4—Marine Corps JSOs/JSO Eligibles
Given Current Law, JPME Output, and Service Assignment Policies, Services Can Support Approximately 10,000 Joint Positions

Because the projections above indicate that the services will have an adequate supply of JSOs to fill the 1000 critical billets now on the JDAL, the maximum supportable number of joint duty positions can be calculated from the services’ ability to produce JSO noms. This ability depends highly on JPME output but is also affected by tour length, COS Exceptions, and service assignment policies.

As demonstrated in our report, MR-593-JS, How Many Can Be Joint? Supporting Joint Duty Assignments, the relationship between the size of the JDAL\(^8\) and the number of JSO noms that can be produced is:

\[
\text{Maximum JDAL} = 2.67 \text{JSOs in JDAs} + 8 \text{JPME grads in JDAs}
\]

This relationship is developed starting with the 50 percent rule and assumes that

- JSOs serve in either critical or noncritical positions;
- the average JDA tour length is three years;\(^9\)
- 12.5 percent of the JDAL is filled by COS Exceptions; and
- no COS Exceptions return to JPME.

The relationship states that under the assumption that 1000 JSOs serve in critical or noncritical JDAs,\(^10\) the maximum JDAL is equal to 2670 plus 8 times the number of JPME grads who are assigned to JDAs each year.

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\(^8\)When we refer to the size of the JDAL, we follow current DoD policy of excluding grade O-3. A more precise statement would be the number of positions on the JDAL above the grade of O-3.

\(^9\)Title IV initially specified that the duration of JDA tours average at least three and one-half years for field grade officers and at least three years for general/flag officers (G/FOs). These tour lengths were later amended to three years for field grade officers and two years for G/FOs.

\(^10\)Analysis in the previous subsections demonstrates that there are sufficient JSOs or JSO eligibles for this to be true.
This relationship is used to produce Figure 3.5, which indicates the maximum JDAL, given current JPME output and various service assignment policies for JPME graduates.

As the figure shows, given the realistic service assignment policy of 83 percent, the services can support a JDAL of around 9900, which is slightly larger than the November 1994 JDAL of 9102 and the JDAL arrived at in the demand-side analysis if the cut is made for all three groups and includes O-3 and in-service billets (9300).

**PROMOTION POLICY OBJECTIVES HINDER THE SERVICES’ ABILITY TO SUPPORT THE CURRENT JDAL**

The Goldwater-Nichols legislation mandates that certain promotion policy objectives be met to measure compliance with the objectives of sharing quality officers and not disadvantaging officers with joint experience. Because the promotion comparisons are at best complex and at worst invalid, certain misperceptions and behaviors exist that make management of quality officers more difficult than it needs to be. Among the misperceptions are that all officers in joint

![Figure 3.5—Maximum Supportable JDAL Given Current Law and Policy](image)
tours have to be quality (promoted) and that an officer needs a joint tour to be promoted (below O-7). Among the counterproductive behaviors is refusing to designate officers in other joint assignments as JSOs because such designation will make it difficult to meet the promotion comparison mandated by law. In addition, a service might influence the promotion comparison of JSO to Service HQS by designating as a JSO an officer who has the necessary qualifications and who is likely to be promoted, but without the intent of using this officer in a future joint assignment. Or a service might attempt to ensure meeting the objective by assigning only likely-to-be-promoted officers to all, or most, JDAs. While the latter might be welcomed by joint organizations, it was not the intent of Goldwater-Nichols to assign quality officers disproportionately to joint positions. Goldwater-Nichols was designed to compel the services to share quality officers and not disadvantage officers who had joint experience.

Goldwater-Nichols mandates that certain promotion policy objectives be met to achieve the objectives of ensuring distribution of quality officers between joint and service positions and not disadvantaging those who have served in JDAs. The comparisons are to be made by grade and competitive category and are shown in Table 3.3.

The promotion objectives do not constrain the size of a JDAL because, in the extreme, the services could adjust their own promotion processes to achieve the objectives. But doing so might require sig-

<table>
<thead>
<tr>
<th>Current Promotion Comparisons</th>
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</thead>
<tbody>
<tr>
<td>JSO &gt; Service HQS</td>
</tr>
<tr>
<td>Joint Staff &gt; Service HQS</td>
</tr>
<tr>
<td>Other Joint &gt; Board Average</td>
</tr>
</tbody>
</table>

11There is evidence that this is succeeding. Only 31 percent of officers surveyed agreed or strongly agreed with the statement that officers in a JDA are not as competitive for promotion as their contemporaries in comparable service positions. See MR-574-JS, Who Is Joint? Reevaluating the Joint Duty Assignment List, for the complete survey results.

12Chairman of the Joint Chiefs of Staff Instruction 1330.02, January 7, 1994, prescribes the format and rules for the comparisons.
significant cultural changes in some services and create problematic personnel management practices in others, thus hindering the services’ ability to support the current JDAL.

The burden of managing officer assignments in the joint world can be reduced if certain changes are made in the calculation and reporting of the promotion comparisons. Some of the changes would simplify the reporting statistics and present a clearer picture when comparing the promotion rates of joint officers with those of officers who have not served joint tours. Other changes would improve the validity of the estimates and provide a more accurate measure of whether the services are meeting the objectives of Goldwater-Nichols.

**Comparisons Can More Accurately Reflect Service Promotion Policies**

We examined two changes that would make the comparisons more accurately reflect the promotion policies of the services—changing the categories used in the comparisons and reporting moving averages in addition to annual promotion board data.

One comparison measures whether JSOs are promoted at an equal or greater rate than those officers who have served in their Service HQS. A JSO retains the designation for his entire career, whether or not he has served in a joint position since his last promotion. Thus, the JSO designation is assigned to a particular individual. In contrast, the Service HQS designation is applied only to officers who have served in such billets within the grade being promoted. Therefore, the JSO to Service HQS measurement is a non-equivalent comparison between individual officers designated throughout their careers and officers identified by particular billets at particular points in time. This person-to-billet comparison is difficult to satisfy and not necessarily indicative of whether JSOs are being disadvantaged compared to officers without the joint experience and education.

We recommend revising the comparison to measure JSOs against a peer group of non-JSOs who have attended intermediate or senior service school in residence—almost all JSOs have this characteris-
tic. This equivalent comparison would accurately assess whether JSOs are being disadvantaged by their investment in a joint experience compared with a well-defined peer group of non-JSOs.

The second comparison in Table 3.3 assesses whether Joint Staff billets have been filled by quality officers at an equal or greater rate than have billets at Service HQS. This is an equivalent assessment; it compares individuals identified by Joint Staff billets with officers identified by Service HQS billets. This billet-to-billet comparison should continue unchanged.

The final comparison in Table 3.3 relates all officers who have served or are serving in other joint assignments (i.e., less JSOs and Joint Staff) in the specific grade to the overall board average (which includes JSOs and Joint Staff officers). We recommend changing this comparison to assess all officers who are serving (or have served in a joint billet at the current grade) against all officers who did not serve in a joint assignment at the current grade.

The proposed comparisons shown in Table 3.4 will improve the validity of the comparisons while adhering to the intent of Goldwater-Nichols. In addition, we acknowledge that one of the difficulties the services face is that for any particular promotion board, the level of “quality” of officers with joint or service duty might be different from past or future promotion boards. In essence, the distribution of quality or of promotion requirements is not consistent over time. Thus, a service could be legitimately achieving the objectives if measured over a longer period of time, even though it may not be doing so for one particular promotion board.

<table>
<thead>
<tr>
<th>Current Comparisons</th>
<th>Recommended Comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSO &gt; Service HQS</td>
<td>JSO &gt; non-JSO</td>
</tr>
<tr>
<td>Joint Staff &gt; Service HQS</td>
<td>Joint Staff &gt; Service HQS</td>
</tr>
<tr>
<td>Other Joint &gt; Board Average</td>
<td>Any joint &gt; All other</td>
</tr>
</tbody>
</table>

MR-593-JS outlines the mechanics of making this and other comparisons.
Certain measurement techniques are well suited for comparing data over periods of time. Allowing the comparative statistics to be calculated on a three-, four-, or five-board moving average\(^\text{14}\) dampens the board-to-board fluctuations that might occur as part of the normal promotion process. Adopting moving averages does eliminate small cell sizes and the year-to-year variation problem, but the results of each board are no longer directly observable. For that reason, we believe that the services should provide both current board results and moving averages to demonstrate compliance with Goldwater-Nichols.

**Promotion Comparisons Can Be Simplified**

We also examined two changes for making comparisons simpler—limiting comparisons to promotion to O-5 and O-6 and combining promotion zones. These changes would greatly reduce the number of reported statistics yet still provide the information required to determine if quality is shared and joint officers are not disadvantaged.

If policy is changed to allow O-3s to qualify for joint duty assignments, they should be excluded from the promotion comparisons because of considerations dealing with their management and because the promotion rate from O-3 to O-4 is currently very high (typically about 80 percent of O-3s are promoted to O-4). Since there is limited time to identify quality officers before the grade of O-4, it is difficult to make conclusions about sharing quality and disadvantaging officers before that grade. Also, O-3s, because of the time required to fill the prerequisites, are not JSOs, and our data show that O-3s have no billet requirements on the Joint Staff and very few on the OSD staff. Therefore, the only meaningful comparison would be Other Joint to the board average. Finally, there is precedent within the law for excluding O-3s; O-3s are excluded from the 50 percent JDAL fill rule.

Promotion to grade O-7 and above should also be excluded, since other provisions in the law require joint experience for selection to

\(^{14}\)With a moving average, data from the most recent period are added and the oldest data are removed.
general/flag officer rank. Moreover, the numbers of officers above the grade of O-6 become progressively smaller, making valid comparisons unlikely. Therefore, the meaningful grades for comparative purposes to determine if the Goldwater-Nichols promotion objectives are being met appear to be to O-5 and to O-6.

Currently, for each grade, separate statistics are reported for officers in the promotion zone, officers above the zone, and officers below the zone. The above- and below-zone categories are difficult to compare statistically because of the small number of officers selected from each. The promotion comparisons should follow the logic used in OSD promotion opportunity calculations. Only officers in the promotion zone should be included in the denominator of the promotion comparisons. Above- and below-zone selectees should be added appropriately to in-zone selectees to create the numerator.

CONCLUSIONS AND RECOMMENDATIONS

From the supply-side analysis, we conclude that of the factors that affect supportability—promotion policy objectives, current law, JPME output, and service assignment policy—promotion policy objectives hinder supportability because they are flawed (and thus present a personnel management problem); as a result, they must be made simpler and more valid. Given current law, JPME output, and service assignment policy, the maximum JDAL supportable is approximately 9900 positions above the rank of O-3. Thus, the services can adequately support any of the potential rank-ordered lists generated in the demand-side analysis.

Based upon the results of the supply-side analysis, we make the following recommendations:

1. Request legal changes permitting more appropriate promotion comparisons. Unlike the comparisons shown in Table 3.3, the

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15 If comparison statistics for promotion to O-7 are not reported, however, the total number of waivers from joint duty for O-7 promotions should be reported.

16 DoD Directive 1320.12, Defense Officer Promotion Program. Promotion opportunity benchmarks are expressed in terms of selections as a percentage of in-zone eligibles, with recognition that above- and below-zone selections are at the expense of in-zone eligibles.
Joint Staff should be compared with Service HQS; JSOs should be compared with non-JSOs; and officers serving in joint assignments should be compared with all officers who have not served in joint assignments.

2. Request legal changes that would require comparison reports only for promotions to grades of O-5 and O-6, which would provide a valid indicator of whether the services are meeting the Goldwater-Nichols objectives.

3. Include both the annual board data and a moving average in the promotion reports.

4. Combine the below-zone, within-zone, and above-zone comparisons to simplify the promotion comparison calculations. This could be done without changing the current law.