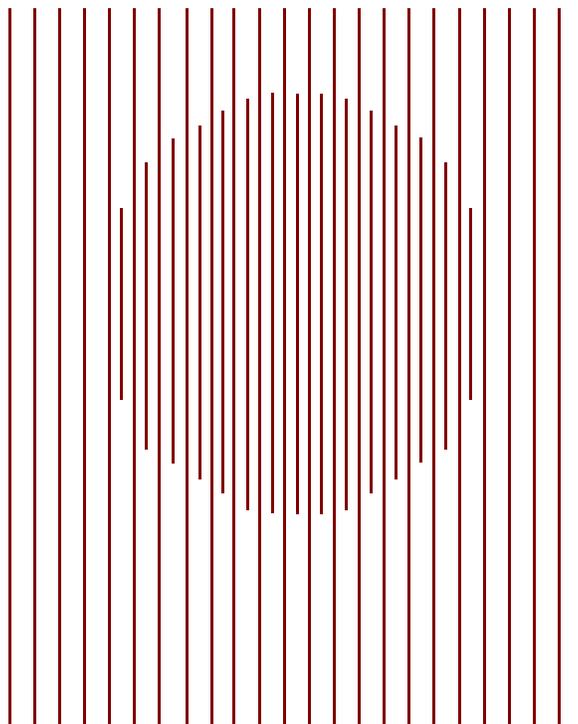


CBO PAPERS

**TRENDS IN SELECTED INDICATORS
OF MILITARY READINESS,
1980 THROUGH 1993**

March 1994



CONGRESSIONAL BUDGET OFFICE

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SECOND AND D STREETS, S.W.
WASHINGTON, D.C. 20515**

NOTE

Unless otherwise indicated, all years referred to in this paper are fiscal years.

PREFACE

As the drawdown in defense spending continues, the ability of the Department of Defense to maintain the readiness of its military forces is the subject of growing debate. Although the department cites readiness as its highest priority, some military leaders and Members of Congress have suggested that U.S. forces are on the "ragged edge" of readiness. This Congressional Budget Office (CBO) analysis, performed at the request of the Chairman of the House Committee on the Budget, attempts to provide a historical context for the debate about military readiness by examining trends in selected indicators of readiness and in resources related to readiness from 1980 through 1993.

Deborah Clay-Mendez, Richard L. Fernandez, and Amy Belasco of CBO's National Security Division prepared this paper under the general supervision of Robert F. Hale, Neil M. Singer, and R. William Thomas. The authors gratefully acknowledge the useful comments provided by Michael A. Miller of CBO's Budget Analysis Division. Jon Berg, Geoff Cohen, and Karen Watkins provided valuable analytical assistance. Christian Spoor edited the paper, and Cynthia Cleveland prepared it for publication.

Robert D. Reischauer
Director

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SUMMARY

The term readiness refers to the ability of a military force to deploy quickly and perform initially in wartime the way it was designed to. Readiness is a key aspect of military capability, particularly in a period when conflicts can commence with little warning.

As the drawdown in defense spending continues, however, the ability of the Department of Defense (DoD) to ensure that its forces are ready is increasingly subject to debate. Initial reductions in defense spending came disproportionately from the procurement accounts, which pay for new weapons. Future reductions may have to come primarily from the military personnel and operation and maintenance (O&M) accounts, which fund military pay and activities related to readiness such as training and equipment maintenance.

The need to protect readiness is widely accepted within DoD. Many of today's senior military leaders were company commanders during the 1970s. They dealt firsthand with the problems of a military that, largely because of problems related to readiness, was dubbed the "hollow force." There is disagreement, however, about whether DoD's plans will ensure an adequate level of readiness in the future. Indeed, some observers have suggested that U.S. forces are already on the "razor's edge of readiness."¹ In response to these concerns, DoD has created several groups, including one composed of former senior military officers, to review the readiness of U.S. forces. Readiness also appears likely to be the subject of considerable debate in the Congress.

This Congressional Budget Office (CBO) paper examines trends in two of DoD's most widely used and longest-established indicators of unit readiness--C-ratings and mission-capable rates--from 1980 through 1993. The paper also examines DoD's performance in five resource areas that are at the heart of the debate about future readiness levels: personnel quality, the total level of funding for the O&M accounts, depot maintenance, the supply of spare parts, and maintenance of real property. C-ratings and mission-capable rates indicate the current level of readiness among units, while shortfalls in

1. Letter from Gen. Gordon Sullivan, Army Chief of Staff, to Sen. John McCain, reproduced in Sen. John McCain, "Going Hollow: The Warnings of Our Chiefs of Staff" (July 1993).

the five resource areas could provide an early warning of future readiness problems.

This paper does not attempt to discuss all of the resources that contribute to readiness. In particular, it does not examine trends in unit operating tempos (steaming days, flying hours, or tank miles) or other training activities (use of simulators, the number of battalions visiting the Army's National Training Center, the number and types of units involved in joint exercises). Because training makes an important and visible contribution to readiness in the short term, DoD and the Congress have tried to protect resources for training. Although there have been some shortfalls--such as in the Army, where actual tank miles have been significantly below planned levels in 1993 and 1994--the high overall C-ratings reported in this paper suggest that for the most part this effort to protect readiness in the short term is succeeding. Accordingly, this paper, like much of the readiness debate, focuses on resource areas such as depot maintenance that contribute more to future than to current readiness and that might be expected to provide the earliest warning of potential readiness problems.

TRENDS IN UNIT READINESS

CBO's analysis suggests that, overall, the readiness of deployable units is high now relative to historical levels. This conclusion is supported by overall trends in aggregate C-ratings (readiness indicators based on comparing the resources that units have with the levels prescribed for wartime) and in mission-capable rates (measures of the condition of the equipment held by units). This high level of readiness appears to hold true for both the active and reserve components, to the extent that separate data are available. Although for some components and some types of equipment these indicators have fallen below the peak levels seen in the late 1980s, for others they are now at record levels. For example, the total mission-capable rate for Air Force aircraft (active and reserve) was at a record high of 87 percent in 1993, and the total mission-capable rate for Navy and Marine Corps aircraft (active and reserve) was 71 percent, just 2 percentage points below its 1987 peak. Both mission-capable rates are well above the levels seen during the late 1970s. In 1980, for example, the Air Force rate was 66 percent and the Navy rate was 59 percent. Based on the available public data, U.S. forces today are far from hollow.

In some areas, however, declines in indicators relative to their peak levels are large enough to raise the question, how much readiness is enough? For example, in 1993, active Navy surface ships were free of critical mission-

degrading equipment failures (C-3 or C-4 casualty reports) 68 percent of the time. On the one hand, this is 24 percentage points above the level reported in 1981 and just above the average for 1980 through 1992; on the other hand, it is 13 percentage points below the peak reported in 1987.

CBO's analysis reaffirms a discovery made by DoD analysts in the mid-1980s: namely, that the readiness indicators used within DoD are not well suited to identifying trends in readiness over time. Although it appears possible to identify broad trends in readiness by looking at C-ratings and mission-capable rates across DoD, trends in individual indicators can be misleading. For example, the percentage of active Marine Corps units reporting C-1 or C-2 overall (the best C-ratings) is lower now than it was in 1980, even though senior military leaders widely agree that readiness has increased substantially since then. DoD may need to develop more objective and consistent readiness indicators--perhaps based on evaluations of unit performance by experts from outside the unit--to ensure that any change in readiness levels during the 1990s is accurately and fully identified.

TRENDS IN RESOURCES THAT SUPPORT FUTURE READINESS

Although C-ratings and mission-capable rates suggest that U.S. forces are far from hollow now, much of the debate about readiness focuses on DoD's ability to provide the resources that will support unit readiness in the future. Each of the five resource areas that CBO examined--personnel quality, total funding for the O&M accounts, depot maintenance, the supply system, and real-property maintenance--yields a somewhat different picture of possible future trends in readiness.

Personnel

The trends in military personnel described in this paper appear consistent with a high-quality and ready force in the future. The quality of new recruits in 1993 was near a record level: two-thirds were high school graduates who scored above the average for the general youth population on a military aptitude test. The only two years in which recruit quality was higher, 1991 and 1992, were years in which a sudden drop in the number of recruits required by DoD contributed to an increase in quality. Moreover, the experience level of the force, measured by the percentage of personnel with more than four years of service, is at a historical high. Because of the drawdown, however, it is difficult to know whether military compensation will be adequate to maintain a highly experienced force in the long run. Current

reenlistment rates reflect DoD policies aimed at reducing the number of military personnel and do not provide a reliable guide to the morale or satisfaction of service members.

Operation and Maintenance

With the exception of military personnel costs, DoD pays for most readiness-related resources out of appropriations for O&M. To date, trends in total spending on operation and maintenance, like trends in military personnel, appear consistent with DoD's commitment to ensuring readiness. In 1994, for example, DoD's total spending on O&M divided by the number of active-duty personnel will be approximately \$48,000. Even after adjusting for inflation, this is above the peak levels reached in the 1980s.

The level of O&M spending per active-duty member also remains high by historical standards after adjusting for recent increases in costs not directly related to readiness (such as the health care costs of military retirees and the costs of helping to convert defense facilities to civilian production). That does not necessarily mean, however, that current spending is enough to fund fully those O&M activities that are linked to current and future readiness. Until DoD reduces its infrastructure of bases and depots, the department will face fixed costs that could significantly increase the level of O&M spending per capita that is needed to maintain readiness.

Depot Maintenance

Depot maintenance involves the overhaul or major repair of weapons and equipment, including airframes, engines, ships, and tanks. The conventional indicator of resource shortfalls in this area is the backlog of unfunded maintenance requirements. This indicator can be very misleading, however, during a period in which DoD is reducing its force structure. To the extent that the military reduces force structure more rapidly than equipment inventories, it raises the level of maintenance backlog that can be borne without causing readiness problems within operational units. As a result, even though maintenance backlogs are at record-high levels in each service, this may not mean that future readiness will fall below current levels. Particularly in the case of the Army--where some of the equipment that is freed up because of the reduced number of active units is being sent to depots for reconditioning--a growing backlog is not a reliable early-warning indicator of future readiness problems.

Other measures of depot maintenance may be more revealing. One such measure, depot maintenance funding relative to the size of the force structure, suggests that current depot maintenance funding for DoD as a whole is comparable with the levels seen in the late 1980s. Moreover, given the historical relationship between depot maintenance funding and the size of the force structure, the current level of funding is greater than what would appear to be required to support the 1999 force structure.

This does not necessarily mean, however, that depot maintenance funding is adequate for current or future needs. Changes in the composition of the force structure, together with the short-term costs associated with maintaining excess depot capacity, could raise the required level of funding above the historical level. In addition, significant differences exist among the services in funding levels. In both the Navy and the Marine Corps, depot maintenance relative to force structure appears to be underfunded compared with historical levels, although in the Air Force and the Army, funding relative to force structure is above historical levels.

Supply System

The ability of the supply system to provide the parts needed by military units and DoD depots is another factor that contributes to current and future readiness. The supply system appears, on the whole, to be supporting the peacetime operating requirements of DoD units. Department inventories of secondary items (spare parts and other supplies) remain at a high level relative to both the size of the force structure and stated requirements. The percentage of requisitions that the wholesale supply system can fill out of stocks on hand (the supply availability rate) remains stable overall, although the supply availability rate for spare parts that support Navy aircraft has declined somewhat. Another indicator of the effectiveness of the supply system--the extent to which aircraft are cannibalized to provide parts for other aircraft--suggests that the system is working very well for the Air Force.

There may, however, be problems on the horizon for the supply system. The extent to which the DoD wholesale supply system can replace the inventories that it distributes is currently limited by law. Although there is no evidence of a widespread supply problem now, this legal limitation cannot be maintained indefinitely without causing readiness problems.

Maintenance of Real Property

In the Department of Defense, real property runs the gamut from runways to dormitories. Although defense analysts disagree about whether DoD's spending to maintain real property should be categorized as readiness-related, that may be irrelevant for practical decisionmaking. Even if DoD could maintain highly ready forces at poorly maintained installations, that approach could lead to low morale and reduced productivity and might not prove cost-effective in the long run. Moreover, the fact that real-property maintenance is less directly tied to readiness than activities such as training or equipment maintenance may make it particularly useful as an early-warning indicator. When O&M funding for DoD as a whole is not adequate, real-property maintenance is likely to be among the first resource areas to suffer.

Based on some of the standard indicators used within DoD, current funding for real-property maintenance does not appear to be adequate. Backlogs of unfunded requirements for maintaining real property are at record levels. Spending per square foot also suggests a problem: in 1994, it will be approximately 25 percent below the average for 1980 through 1993. The current low level of funding could reflect a desire not to invest in maintaining buildings that might be taken out of DoD inventories as the result of future base closures or realignments. Alternatively, it could be the first sign of a general shortfall in O&M funding relative to requirements.

Over the long run, DoD may be able to eliminate much of the shortfall in real-property maintenance by closing buildings rather than increasing funding. Even after the effects of all announced base closures and realignments are considered, the number of square feet per active-duty member is 10 percent above its historical average. If DoD were able to restore the historical relationship between number of personnel and square feet of buildings, the current level of funding for real-property maintenance might be appropriate for the size of the force in 1999 (although still too low relative to the current size of the force). Realistically, however, delays in closing bases, together with the potential benefits to DoD from continuing to use existing buildings on bases that will not be closed, suggest that a higher ratio of facilities to personnel may persist well into the next century. Thus, if funding for real-property maintenance is to be adequate in 1999, it may have to be increased somewhat from the 1994 level.

INTERPRETATIONS OF CURRENT TRENDS

Trends in indicators of current readiness and in readiness-related resources must be interpreted cautiously. For example, indicators of unit readiness such as C-ratings and mission-capable rates suggest that readiness is high. Based on the publicly available data, U.S. forces are not on the "razor's edge" of a hollow force. (Indeed, since most of the historical data suggest that readiness levels change gradually rather than abruptly over time, the notion of a razor's edge could itself be misleading.) Some observers might interpret this as a sign that further reductions in readiness-related resources are not as risky as would otherwise be the case. That interpretation, however, is subject to some important limits. Significant declines in readiness indicators have been seen in selected areas, including Navy surface ships. Moreover, the measures of readiness used in this paper may not be sensitive enough to identify fully and accurately changes in readiness levels.

CBO's survey of resource areas that contribute to future readiness reinforces the argument that better indicators of current readiness are needed. DoD, however, is unlikely to find reliable early-warning indicators of future readiness problems during a major drawdown in the force structure, because many of its usual indicators are likely to be distorted. Retention rates among career personnel may be determined by DoD policies instead of reflecting the morale of the force or the attractiveness of military compensation. Rising backlogs of unfunded depot maintenance may not foretell a decline in unit readiness. Total inventories of secondary items may increase even as the availability of spare parts needed to support the most modern systems declines. Rising backlogs of real-property maintenance and inadequate maintenance spending per square foot may be a signal that DoD has more property than it needs.

The turbulence associated with a major force drawdown makes it very difficult to determine whether funding in these support areas is adequate or not. Even for those areas in which CBO identified potential problems, such as real-property maintenance and Navy depot maintenance, current levels of funding for DoD as a whole appear to be in line with what might be required to support the 1999 force structure. Although this suggests that further cuts in those resource areas may not be appropriate, it does not provide a clear guide to whether funding should be increased over the near term. During a drawdown, an increase in funding might lead to higher readiness levels, or it might permit DoD to put off necessary reductions in the number of depots, the number of square feet of facilities that are being maintained, and the size of supply system inventories.

Another reason for caution in interpretation is that CBO's survey included only those resource areas that the ongoing debate has singled out as likely problem areas. Although the potential shortfalls in funding identified in this paper might appear manageable within DoD's current plans, there could be hidden problems in important areas, such as unit training, that are not examined in this paper. Alternatively, of course, there could be unrecognized opportunities for savings.

Last, and perhaps most important, this paper does not look beyond readiness to address the general question of military capability. Even if DoD will be able to maintain the readiness of its planned force structure, it may be unable to provide a force that is large enough, that has the resources needed for sustained combat, and that has modern, technologically superior weapon systems. In a period when defense budgets are limited, the benefits of increased funding for readiness must be carefully weighed against the potentially adverse effects on funding for the other components of military capability.