

## **CHAPTER III**

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### **RESOURCE AREAS OF SPECIAL CONCERN**

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### **AND POTENTIAL EARLY-WARNING INDICATORS**

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A wide variety of Department of Defense resources contribute to future military readiness. In examining indicators of future readiness, the Congressional Budget Office focused on five resource areas that the ongoing defense debate has identified as being of particular concern. The first is personnel quality, which affects both current and future readiness. Personnel problems were perhaps the defining characteristic of the hollow force of the 1970s, and some senior military officers have expressed concern that the turbulence associated with the current drawdown, together with limited pay raises, could lead to problems once again.

The second area of concern is the adequacy of total funding for the operation and maintenance accounts; together with appropriations for military personnel, these accounts are the principal source of funding for a wide range of activities that support both current and future readiness. The final three areas that CBO examined--depot maintenance, wholesale purchases of spare parts, and real-property maintenance--are for the most part funded (directly or indirectly) out of the operation and maintenance accounts. Because these three activities support military operations from behind the scenes and are more closely tied to future than to current readiness, they could provide early-warning indicators of future readiness problems.

### **INDICATORS OF PERSONNEL READINESS**

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Measures that describe the people in the military--a key input to readiness--present a very different picture today than they did during the hollow-force years of the late 1970s. Incoming recruits are better educated and more capable of taking on the complex tasks of a modern military; high reenlistment rates have given the services a solid core of experienced enlisted personnel; and the imbalance between force structure and available personnel that was most evident in the reserve components has disappeared. In short, the available personnel measures reinforce the generally favorable impression of readiness trends given by C-ratings and mission-capable rates.

Despite the indications that today's personnel are much more capable of contributing to a ready military than was the case in 1980, all four services

cite personnel readiness as an area of concern.<sup>1</sup> The Administration's plans to limit military pay raises, they say, will increase the gap between military and civilian pay that supposedly arose during the 1980s, making both recruiting and the retention of experienced personnel more difficult. The services also point to survey results that show young people expressing less interest in joining the military than was true a few years ago, and they worry that experienced people will leave the services because of uncertainty about their career prospects and a lowered quality of life resulting from budget cuts and overseas military commitments.

To give some perspective to these conflicting views of personnel readiness, CBO examined the available objective indicators. Recruit quality (as measured by education and test scores) indicates how readily new personnel can be trained and how well they will perform once trained, providing a leading indicator of future problems with personnel readiness. Measures of experience tell more about current readiness; a very experienced force may be able to maintain high readiness despite lower recruit quality, but eventually the experienced personnel will retire. (Reenlistment rates might serve a similar function of indicating current readiness, and also help to predict future readiness, but the exit bonuses and other separation programs of the last three years cloud the interpretation of recent data on reenlistments.) CBO also looked at the extent to which people are serving in jobs for which they have not been trained, since the speed of recent personnel cutbacks, and the turbulence surrounding them, might be making it difficult for the services to retain the right people and to keep them in the units where they are most needed. Finally, CBO looked at overall staffing levels, a key concern in the late 1970s. General Meyer, in citing the failings of the "hollow army" in 1980, complained of units so understaffed that whole platoons and companies existed only on paper.<sup>2</sup>

With the exception of recruit quality, the measures examined in this chapter have counterparts in the personnel component of the C-ratings from the Status of Resources and Training System. The data shown here, however, are drawn largely from the services' automated personnel records, which provide both a longer time span and a more consistent measurement of the underlying factors.

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1. See the statements of the Chiefs of Staff in Sen. John McCain, "Going Hollow: The Warnings of Our Chiefs of Staff" (July 1993).

2. House Committee on Armed Services, Subcommittee on Investigations, "National Defense Funding Levels for Fiscal Year 1981," H.A.S.C. No. 96-41 (May 29, 1980), p. 18.

### **Recruit Quality**

The hollow force of the late 1970s generally attracted a sufficient number of recruits, but many of them were ill suited to serve in the complex world of a modern military. Since that time, the services have viewed recruit quality as a prime measure of the volunteer system's ability to provide the people required for a ready force. Given that perception, it may be understandable that press reports of poor recruiting results early in 1993 raised concerns about a new hollowness. Perhaps a military undergoing personnel cutbacks, with its focus dimmed by the end of the Cold War, could not attract well-qualified recruits.

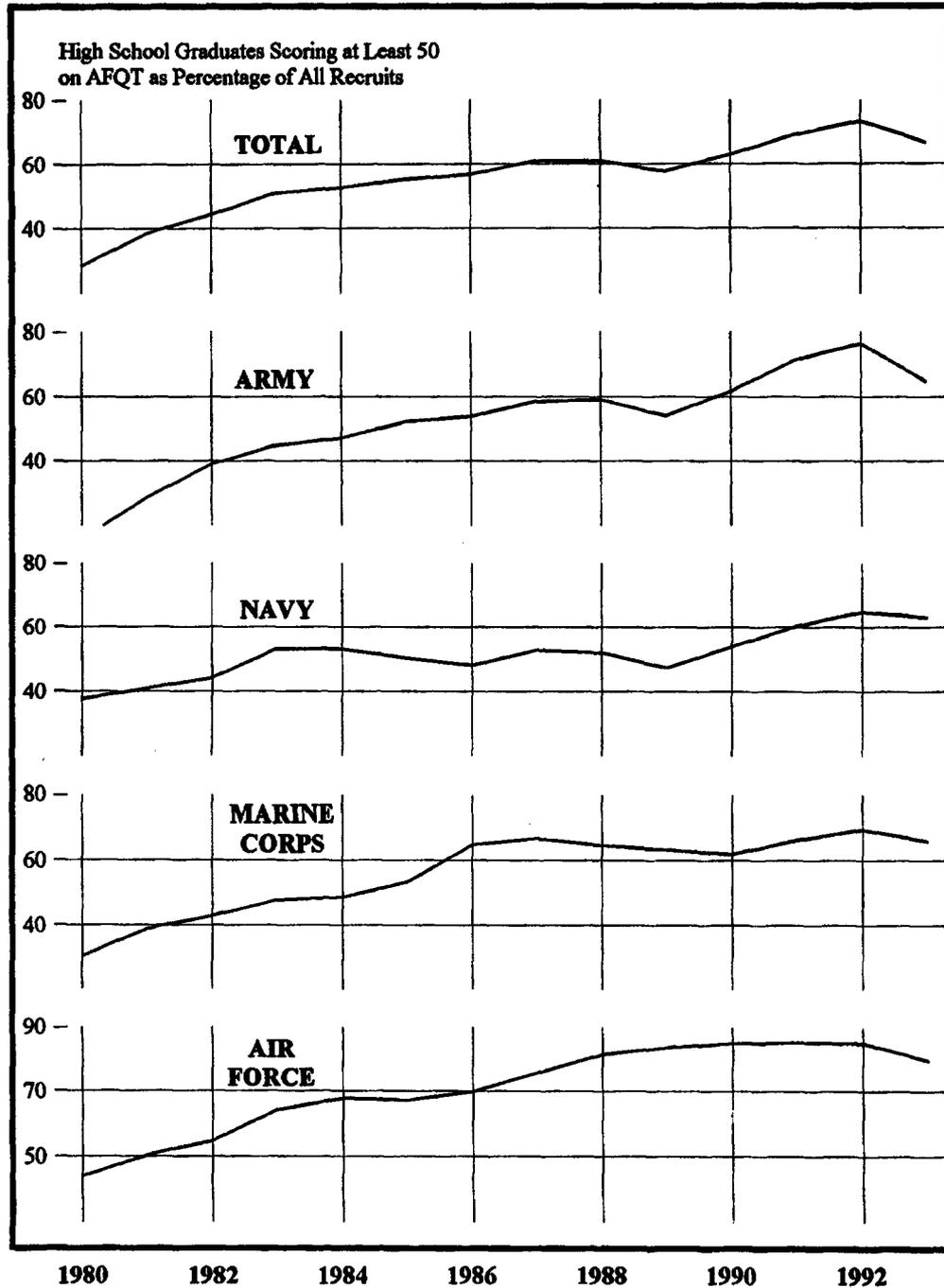
Recruiting may indeed be a problem area in the future, but the 1993 results can hardly be taken as a sign of trouble. For the Army, whose poor recruiting early in the year had been the cause of concern, 1993 would prove to be the third-best recruiting year ever. The same was true for DoD as a whole.

The services quantify the quality of new enlistees in terms of their level of education and how well they score on the Armed Forces Qualification Test (AFQT), a general-aptitude test given to applicants for military service. These two factors measure different traits. High school graduates are more likely to complete their initial enlistment term than are nongraduates. Thus, a military with more nongraduates among its recruits will tend to have more people undergoing training, or serving ineffectively in their initial assignments, than will a military of equal size with more graduate recruits. People with high scores on the AFQT can be trained in their military occupations more readily than lower-scoring recruits, and once on the job, they tend to perform better. Test scores, then, measure a component of military capability as well as being an indicator of readiness.

A simple summary measure of recruit quality combines the two factors: the percentage of recruits who both possess a high school diploma and score at least 50 on the AFQT. AFQT scores, which range from 1 to 99, correspond roughly to percentiles for the general youth population. Recruits who satisfy both these criteria are commonly referred to as "high quality." For the reserve components, data on test scores from the early 1980s are not as detailed as for the active services, so the quality measure for the reserve components discussed below includes AFQT scores of 31 and above.

The percentage of high-quality recruits in 1993 was impressive by virtually any standard (see Figure 6). More than twice as great a percentage

FIGURE 6. QUALITY OF ENLISTED RECRUITS TO THE ACTIVE-DUTY MILITARY



SOURCE: Congressional Budget Office based on data from the Defense Manpower Data Center.  
 NOTES: Excludes recruits with prior military service. High school graduates excludes people with GED or other equivalency certificates. Recruits with unknown education or test scores are excluded from the total. AFQT = Armed Forces Qualification Test.

were high quality in 1993 as in 1980, the nadir for recruit quality; for the Army the ratio was more than four times. Poor quality in 1980 reflected both the services' recruiting difficulties and problems with the scoring of the AFQT that led to many recruits' being given higher scores than they deserved. Less than 40 percent of recruits actually scored above 50 on the test in 1980 (compared with more than 60 percent every year since 1985), less than 70 percent were high school graduates (compared with more than 90 percent since 1983), and only about 30 percent of recruits would be classed as high quality. Recruit quality improved steadily through the 1980s and into the 1990s, in part because of large pay raises in 1981 and 1982, more generous education benefits (the Army College Fund, as it came to be called), and improved recruiting practices. In 1993, two-thirds of recruits were high quality.

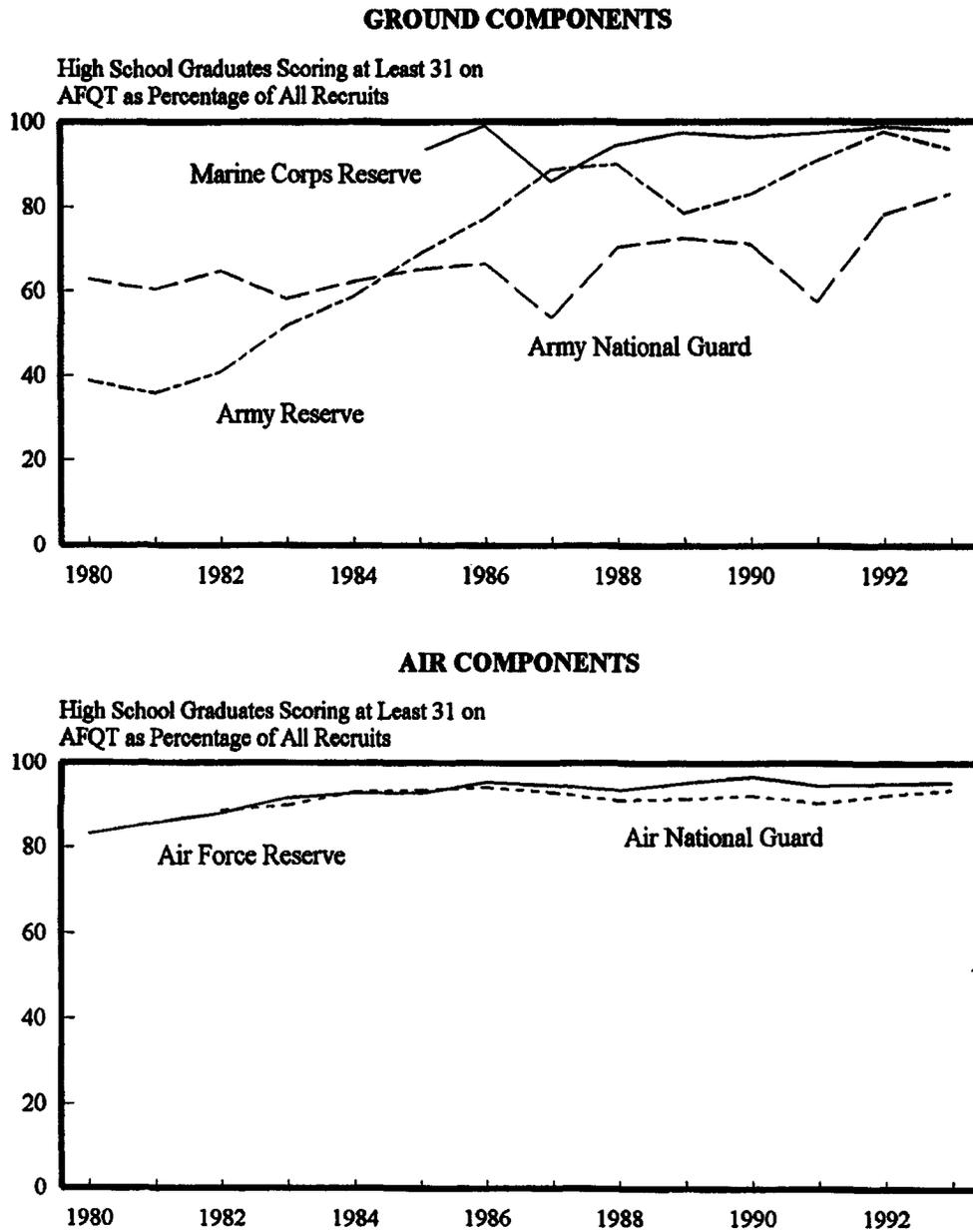
The 1993 recruiting results look poor in comparison with the two preceding years, but recruit quality in those years was artificially inflated. The need for new recruits fell sharply in 1990 and 1991, particularly for the Army and the Navy, as a result of overall personnel cutbacks. The level of resources devoted to recruiting, however, did not fall as quickly. Combined with other factors, this temporarily improved recruit quality in the early 1990s.

The picture for the reserve components is similar to that for the active forces. For both the Army and Air Force reserve components, recruit quality in 1993 was at or near record levels (see Figure 7). (The data that CBO obtained for the Naval Reserve did not include AFQT scores for most recruits in recent years.) Army Reserve recruiting improved dramatically in the early to mid-1980s, in concert with improvement in recruiting for the active Army, after the active Army's Recruiting Command took over recruiting for the Army Reserve in 1980. Army Guard recruiting did not show similar improvement, but recruit quality headed generally upward through the 1980s and into the 1990s.

If 1993 was such an excellent recruiting year, why do the services express concern about the future? Certainly, the Administration's plan to limit military pay raises and the reported decline in young people's interest in military service could make recruiting more difficult, but how much more difficult?

On pay, the crucial question is whether the planned raises will actually put the services in a worse position in competing for young workers than they have been for the past few years. In 1995 through 1997, the Administration plans to offer annual pay raises to military personnel that will be 1.5

FIGURE 7. QUALITY OF ENLISTED RECRUITS TO THE SELECTED RESERVES



**SOURCE:** Congressional Budget Office based on data from the Defense Manpower Data Center.

**NOTES:** Excludes recruits with prior military service. High school graduates excludes people with GED or other equivalency certificates. Recruits with unknown education or test scores are excluded from the total. AFQT = Armed Forces Qualification Test. Data for the Naval Reserve included too many people with unknown AFQT scores to be reliable.

percentage points below the rise in the standard measure of civilian pay; a widening pay gap would seem the obvious result. Yet that same measure showed a gap developing through the 1980s, when recruit quality--and the retention of experienced personnel--rose to record levels. Recent research indicates that the problem lies in the standard measure of civilian pay, the component of the Bureau of Labor Statistics' employment cost index that covers wages and salaries of private-industry workers--often called simply, if not entirely correctly, "the" ECI. This index, however, was never intended to track the pay of the young, high-school-only workers on whom the military relies for its enlisted personnel.<sup>3</sup> The Administration's plan for military pay raises may or may not worsen the competitive position of the services; because that plan is defined relative to the ECI, the true outcome is hard to predict. But projecting the future relationship between the ECI and a measure of civilian wages that is more appropriate for comparing with military pay is far from straightforward.

Reduced interest in the military on the part of young people--enlistment propensity, as the services call it--would certainly present a problem if the military continued to recruit 300,000 young people each year, as it did in the 1980s. A smaller military, however, needs fewer recruits: under 200,000 in 1994. Is the reported decline in propensity, then, great enough to cause problems? Once again, the answer is unclear. Although research has charted the relationship between propensity measures and subsequent enlistments, no one has used that work to estimate how large a decline in high-quality enlistments should be expected. Moreover, the last reported survey on propensity dates from 1992; since then, the trend could be in either direction.

Perhaps the greatest cause for concern about recruiting involves the willingness to devote adequate resources to it. Recruiting resources include the recruiters themselves--military personnel who might otherwise be assigned to operational units--and other military and civilian personnel in support positions; operation and maintenance expenditures to pay for recruiting stations, typewriters, gas for recruiters' cars, and so forth; advertising to build public awareness of the military as an attractive employment option; and postservice education benefits and other incentives to attract qualified applicants. Facing limited overall funding, the services may be tempted to slight recruiting. Indeed, even during the 1980s, when defense funding was more generous, the Navy tried to recruit for what are arguably the most technically complex jobs of the four services with average recruiting costs well

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3. James R. Hosek and others, *A Civilian Wage Index for Defense Manpower*, R-4190-FMP (Santa Monica, Calif.: RAND, 1992).

below those of the Army; since 1985, it has lagged behind the other services in all measures of recruit quality.

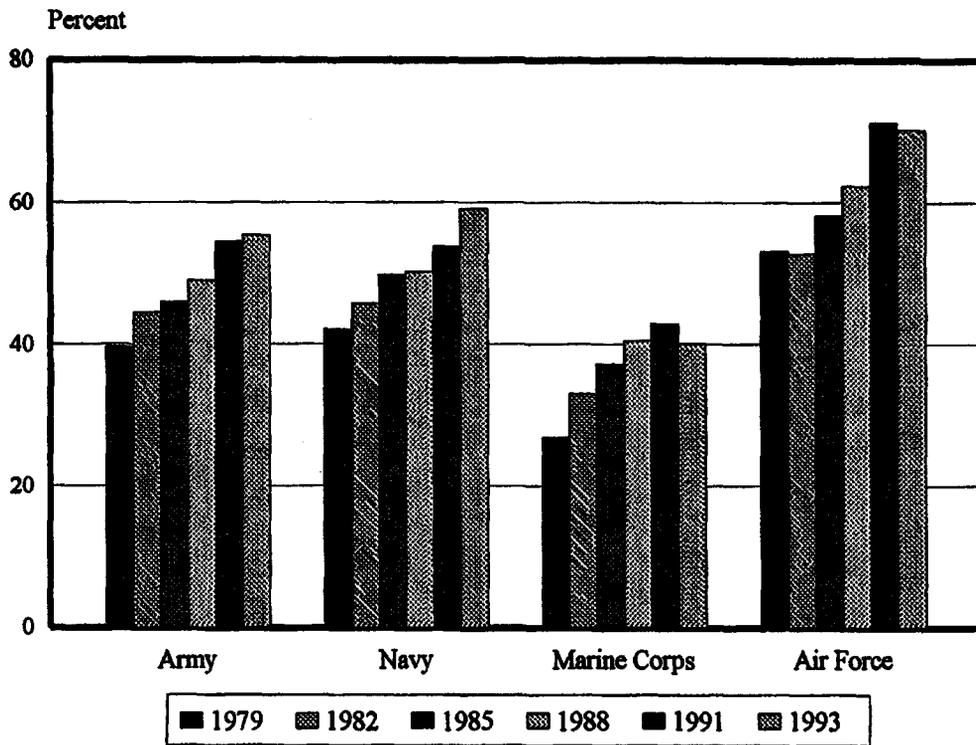
Over the next few years, the services can economize by sizing their recruiting establishments and resources for the smaller numbers of recruits that will be required while personnel cuts are under way. Eventually, however, they will have to reverse some of the cuts if they wish to maintain recruit quality. The end of personnel reductions will mean a rise in the need for new recruits. If the services do not adequately anticipate this rise--with more trained recruiters, larger budgets for recruiter support, and greater advertising expenditures--quality could suffer. Maintaining constant quality might require additional spending on the order of \$100 million (in 1994 dollars) for the four services combined, including the pay of the additional military personnel assigned to recruiting--a fairly small increment to total readiness-related spending.

### Experience

Intuition suggests that personnel with more experience in their jobs will perform better than those with less experience, and evidence in the military workplace supports this presumption. Thus, longer average work experience among military personnel would seem to imply more capable, and more ready, military forces. As noted in Chapter I, a shortage of experienced non-commissioned officers was cited as one aspect of the hollow force of the late 1970s. Experience also plays a part in a unit's C-rating, which includes a measure of the unit's personnel in the senior enlisted pay grades. Because the services promote to fill vacancies, however, the number of people in each pay grade may be a less useful measure of readiness than more direct measures of experience.

Average experience levels rose in all four services throughout the 1980s and into the 1990s. One measure of this rise is the percentage of enlisted personnel who have completed four or more years of service (roughly corresponding to the percentage who have completed their initial service obligations). In the Army, for example, this fraction rose from 40 percent in 1979 to 55 percent at the end of 1993 (see Figure 8). In the Air Force, it increased from 53 percent to 70 percent over the same period. The rise tends to be more marked in recent years, reflecting the services' use of reduced recruiting, rather than separation of career personnel, as the primary means of achieving personnel cuts.

FIGURE 8. ACTIVE-DUTY ENLISTED PERSONNEL WITH MORE THAN FOUR YEARS OF SERVICE



SOURCE: Congressional Budget Office based on data from the Defense Manpower Data Center.

The rise in overall experience levels has not, in general, been accompanied by a rise within pay grades (except in the midcareer grades of E-5 and E-6). Rather, the services have promoted more people into the NCO ranks. This increase in the proportion of NCOs has coincided generally with the introduction of technically more sophisticated equipment.

The current high levels of experience among military personnel will help dampen the effects of personnel cuts on readiness, but the services have argued that voluntary retention rates eventually will fall--or may already be falling--as a result of budget cutbacks, longer or more frequent overseas deployments, and other factors. Recent retention data, however, shed little light on this crucial question; all four services have been encouraging midcareer personnel to leave with offers of cash payments and implied threats of involuntary separation. When the cutbacks end, reenlistment rates may indeed be lower than they were in the 1980s, or they may be higher--today's recruits should face unusually good promotion prospects as the current bulge of senior personnel reaches retirement.

Years of service may not be the best measure of experience; an individual's experience in his or her current military specialty is probably more relevant. Experience in a particular job, however, is much more difficult to measure, so total experience is used as a proxy. The only situation in which it might not be an adequate proxy is when large numbers of personnel are forced to change jobs. Job changes in the military do seem to be more common in recent years than in the early 1980s, but average experience too is so much higher now than in the hollow-force years that accounting for job experience probably would not markedly change the impression given by Figure 8.

### Skill Mismatches

When commanders are forced to fill key positions with people untrained in the requirements of the job, readiness suffers. In contrast to measures of recruit quality and experience, which showed steady rises during the 1980s, measures of skill mismatches present a mixed picture.

Various measures of skill mismatches exist. Personnel C-ratings measure it in terms of available personnel in "critical skills." During the mid-1980s, DoD's annual *Manpower Requirements Report* detailed the number of overstrength and understrength skills and the number of people in each category. CBO examined the problem of skill mismatch by comparing the

military occupations in which individual service members have been certified as qualified with the occupations in which they are serving.

Comparing specialties is not the straightforward exercise it might appear to be. The Army lists more than 300 distinct specialty titles, the Navy more than 1,000. Some substitutions among these titles are not only permitted but common; Army infantry personnel trained for service in the Bradley Fighting Vehicle (specialty code 11M), for example, can serve as ordinary infantry personnel (code 11B). Deciding which apparent mismatches are actually acceptable requires a group of experts or a stack of service personnel manuals. Producing a fully consistent history of mismatches may be impossible.

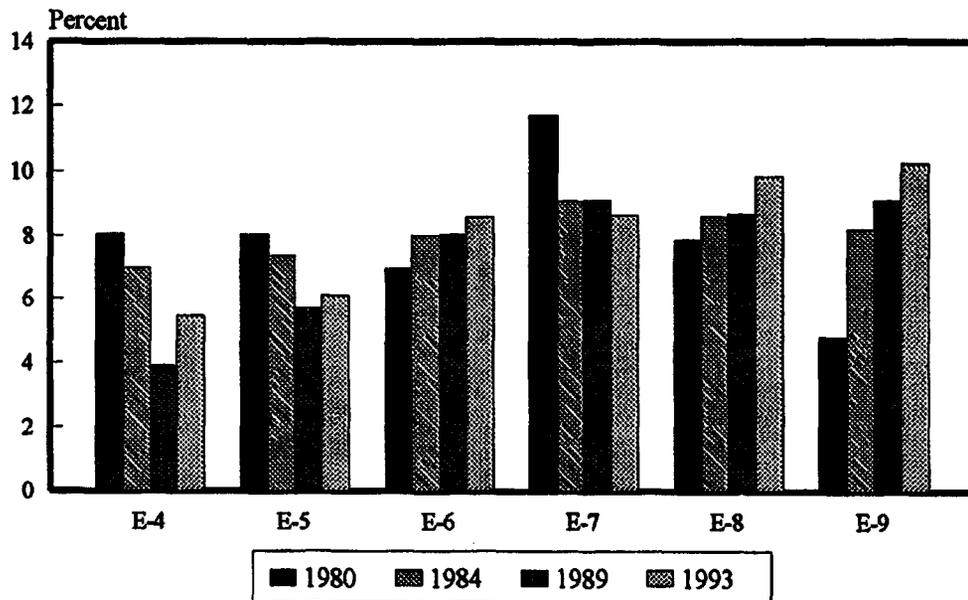
CBO estimated the percentage of enlisted personnel, by pay grade, who were serving outside their primary or secondary specialties at the end of 1980, 1984, 1989, and 1993. (Aggregation across pay grades is not appropriate, in part because many of the problems in correctly identifying mismatches are specific to certain grades.) The picture for the Army is not entirely typical of all four services, but it is typical in revealing a mixed bag of trends (see Figure 9). Some of the changes apparent in Figure 9 can be explained: reduced rates of mismatch in grades E-4 and E-5, for example, may have been caused by Army efforts to restrict reenlistments of personnel in overstrength specialties. For other changes, such as the apparent rise in mismatches in grades E-8 and E-9, the explanation is less obvious.

Two generalizations about readiness seem justified by the data for the Army and the other three services (which are not shown). First, comparing 1993 with 1989, both decreases and increases in rates of mismatch are evident. This suggests either that the supposed turbulence in personnel assignments caused by the cutbacks is not adversely affecting job assignments or that the services' efforts to focus separation incentives on overstrength specialties and pay grades have been effective. Second, comparing 1993 with 1980, a hollow-force year, reductions in mismatch rates seem more common than increases. Most of the changes are rather small, however, compared with the overall mismatch rates, and other changes between the two years--consolidations of specialties, for example--could obscure any real changes.

### Staffing Levels

Perhaps the most obvious sign of a hollow force would be an inadequate number of military personnel to staff the existing force structure. By this

FIGURE 9. ARMY ENLISTED PERSONNEL SERVING IN POSITIONS FOR WHICH THEY ARE NOT QUALIFIED, BY PAY GRADE



**SOURCE:** Congressional Budget Office based on data from the Defense Manpower Data Center.

**NOTES:** Personnel are treated as qualified if their duty military occupational specialty (MOS) matches either their primary MOS or their secondary MOS, based on the first three characters of the MOS. Figures include adjustments for some of the more common permitted substitutions (for example, 11M for 11B) and for personnel qualified as supervisors who are serving in lower-level positions.

measure, the personnel cuts to date do not appear to have affected readiness; staffing levels in recent years have generally been comparable with levels before the cuts began. Apparently, the services have matched their personnel reductions to their cuts in force structure.

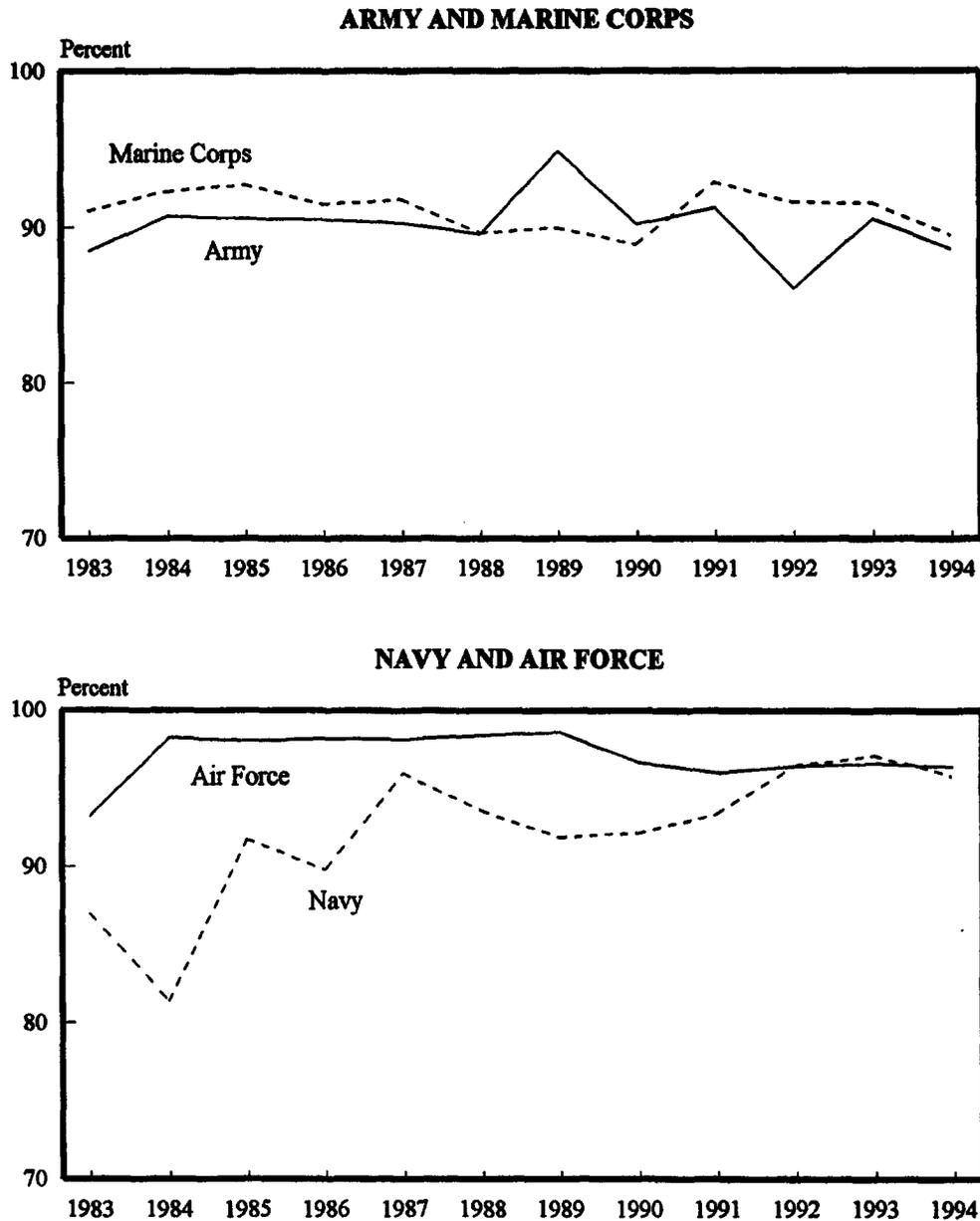
Of course, not one of the services staffs all of its units at 100 percent of their wartime requirements. In the mid-1980s, overall staffing (programmed authorization) averaged about 97 percent of programmed requirement in the Air Force, and about 90 percent in the other three active services (see Figure 10). In the reserve components, trained in-unit strength (a better measure than programmed authorization for the reserve components) ranged from 98 percent for the Air Force Reserve to 84 percent for the Army Reserve (see Figure 11).

Among the active components, only the Air Force shows a lower staffing level in 1993 than the average over 1986 to 1988 (immediately before the current personnel reductions began). The Air Force began cutting personnel in 1989 and has maintained a lower staffing level since 1990, though staffing remains higher than in the early 1980s. In 1994, three of the four services show slightly lower staffing than the 1986-1988 average, but the 1994 figures represent projections made in 1993 and may be revised in the next *Manpower Requirements Report*.

For the reserve components, the picture is more mixed. For all but two components, staffing levels in 1993 and 1994 are roughly the same as over the 1986-1988 period. The Army National Guard, however, increased staffing substantially during the early 1990s and plans to maintain the higher level through 1994. The Naval Reserve, in contrast, began cutting its staffing level in 1992 and projects a further decline. Total personnel in the Naval Reserve will fall 25 percent by the end of 1994, compared with 1991, with little corresponding reduction in the force structure requirement. Apparently, the Navy has decided that it no longer needs many of the reserve units that had been slated to augment active units, but it has not yet reflected this in its official requirements.

Continued high overall staffing levels suggest that readiness is being maintained, but this suggestion would be stronger if complete data were available to show a substantial change from the hollow-force years. The reserve components sharply increased their staffing in the early 1980s, and the level of staffing remains higher than in 1980 for every component except the Naval Reserve (assuming that the 1994 figures are not revised upward). Of

FIGURE 10. ACTUAL STAFFING IN THE ACTIVE FORCES AS A PERCENTAGE OF STAFFING REQUIREMENT

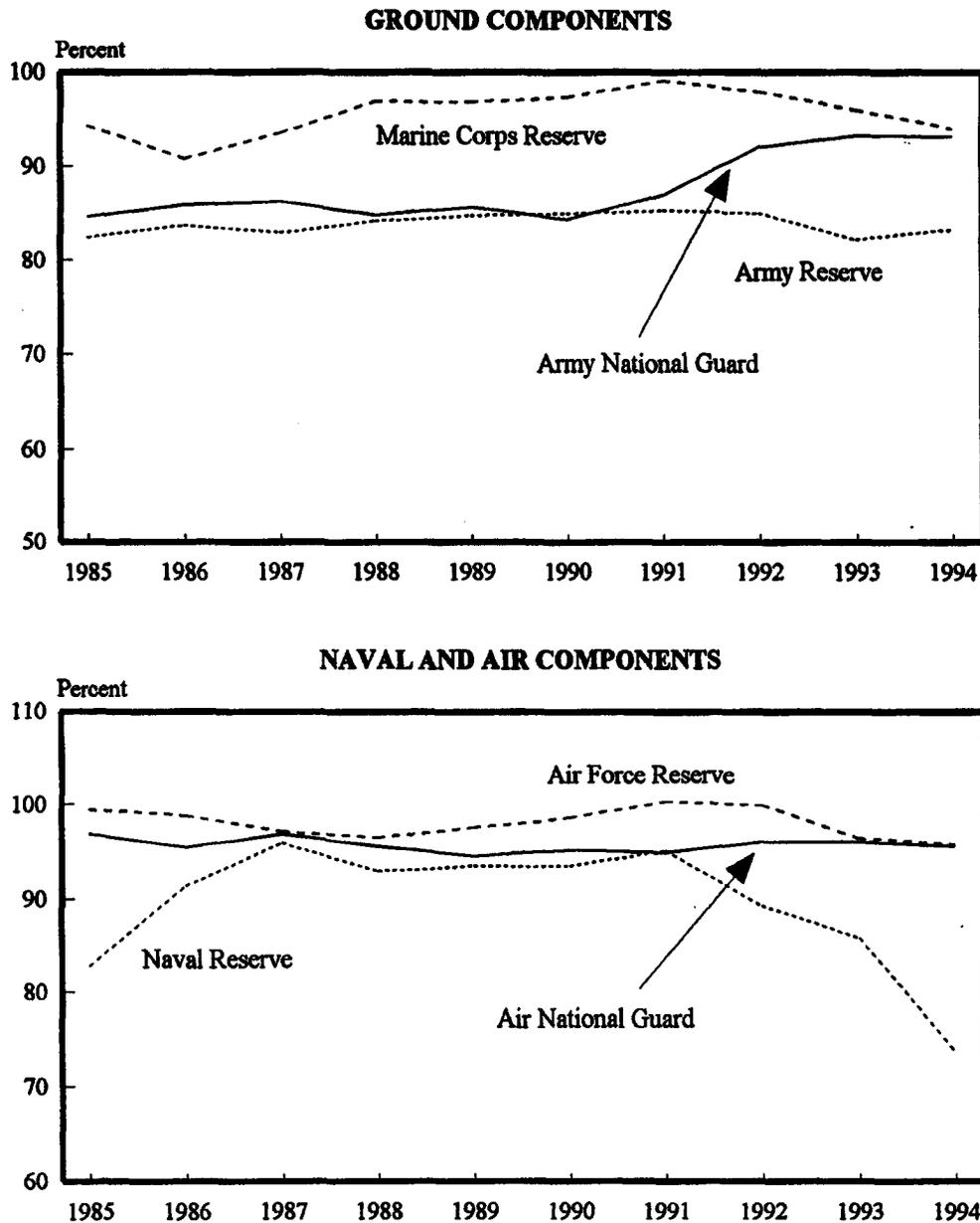


SOURCE: Department of Defense, *Manpower Requirements Report*, various years.

NOTES: Actual staffing refers to programmed authorization; staffing requirement refers to programmed manpower requirement.

The report for fiscal year 1987 (published in February 1986) showed a large reduction in the Navy's programmed manpower requirement for 1986, compared with the previous year's report, and a revised estimate for 1985.

FIGURE 11. ACTUAL STAFFING IN THE SELECTED RESERVE COMPONENTS AS A PERCENTAGE OF STAFFING REQUIREMENT



SOURCE: Department of Defense, *Manpower Requirements Report*, various years.  
 NOTE: Actual staffing refers to trained in-unit strength; staffing requirement refers to wartime requirement.

the active components, 1980 data could be located only for the Army and Marine Corps.<sup>4</sup> General Meyer's statement notwithstanding, Army staffing in 1980 (and that of the Marine Corps) was comparable with staffing later in the 1980s. This may reflect changes in the way the Army determined staffing requirements, or it may be that the hollowness referred to by Meyer was confined to certain Army specialties--namely, the combat arms specialties. Since 1981, the Army has successfully used generous education benefits and other incentives to attract well-qualified recruits to the combat arms.

Personnel make a highly visible contribution to current and future operational readiness, and DoD's commitment to protecting its military personnel resources is correspondingly strong. Some experts believe, however, that readiness-related activities funded through the operation and maintenance accounts are more vulnerable to shortfalls. How does the current level of funding for operation and maintenance compare with the levels seen during the 1980s?

#### TRENDS IN OPERATION AND MAINTENANCE SPENDING

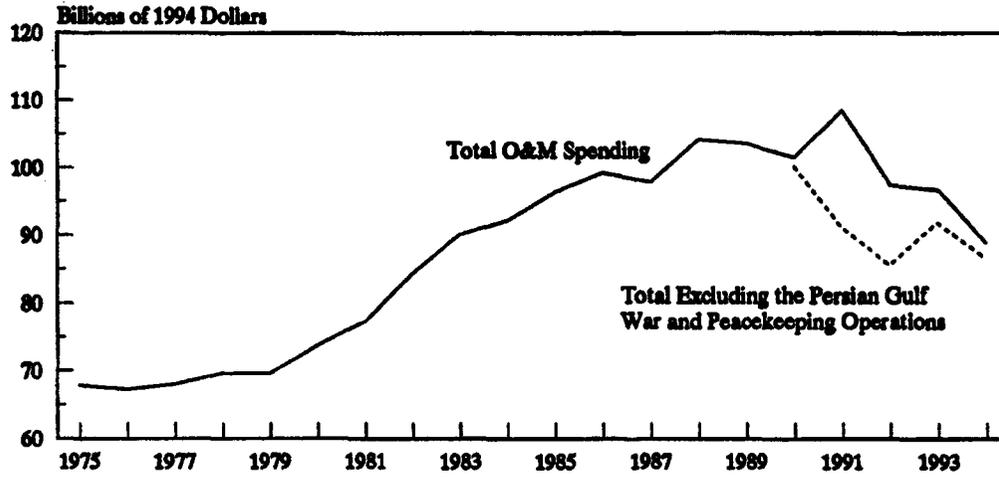
The operation and maintenance appropriations pay for a broad range of goods and services within DoD. Some of them, such as health care benefits for military retirees and pollution prevention programs, have a tenuous link to current or future military readiness. Yet many of the goods and services funded from O&M accounts, including overhauls of weapon systems and the fuel and spare parts that military units use in training, make a critical contribution to both current and future readiness. Although the relationship between future readiness and total O&M spending is by no means direct, shortfalls in funding could presage readiness problems.

The current level of O&M spending appears, overall, to be consistent with DoD's commitment to ensuring current and future readiness. In 1994, spending will total \$87 billion for operation and maintenance, excluding spending on peacekeeping operations and additional weapons repair associated with the Persian Gulf War (see Figure 12). (Unless otherwise indicated, all funding is expressed in 1994 dollars.) Although O&M spending in 1994 is 17 percent below the pre-Desert Shield/Desert Storm high point achieved in 1988, it remains 25 percent above the level seen in 1979, a year frequently cited as the low point in readiness.

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4. A 1984 DoD study of readiness, "Improvements in U.S. Warfighting Capability, FY 1980-84" (May 1984), reported that Navy and Air Force data for 1980 were unavailable.

**FIGURE 12. SPENDING ON OPERATION AND MAINTENANCE**



SOURCE: Congressional Budget Office using data provided by the Department of Defense.

NOTE: Operation and maintenance spending provides a variety of support services to military forces and military personnel. Spending is measured in outlays.

The decline in O&M spending from its 1988 peak reflects decreases in the size of military forces. Indeed, O&M spending has fallen at a slower rate than has the size of the military. Using changes in the number of military personnel as a proxy for changes in force structure, CBO found that the \$48,000 being spent on O&M to support each active-duty service member in 1994 is above the peak level achieved in the 1980s (see Figure 13). This figure excludes funding for the Persian Gulf War and for peacekeeping operations, which are exceptional expenses funded with supplemental appropriations. The level of spending in 1994 is over 50 percent higher than in 1979, adjusting for inflation. At least by historical standards, the current level of O&M funding relative to force structure appears to be very high.

Not all O&M spending, however, contributes directly to military readiness. Even though total spending is high, some Members of Congress have recently suggested that this fails to take into account either the rapid growth in some areas of O&M that have only a limited effect on military readiness (such as health care) or the recent inclusion in O&M of activities that have not traditionally been part of DoD's budget (such as economic conversion).<sup>5</sup> In addition, some DoD activities that were formerly funded in other appropriation categories have been transferred to O&M. For example, responsibility for funding about \$2.9 billion of purchases of major repair parts (such as aircraft engines) was transferred into the O&M accounts from the procurement accounts. As a result of these changes, growth in O&M spending per member of the active-duty military may overstate the extent to which O&M is in fact supporting military readiness.

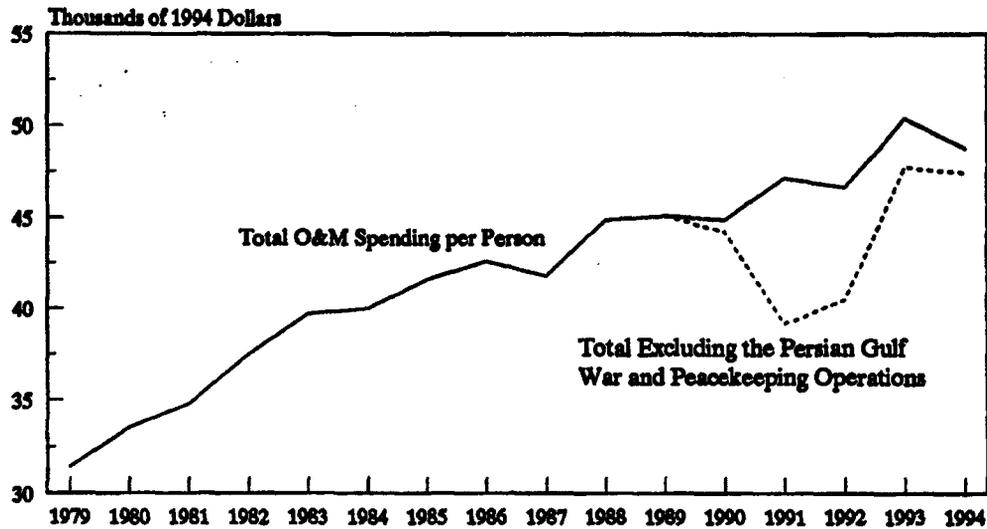
CBO estimates that these three factors--growth in O&M spending for medical care and for nontraditional activities, plus additions in O&M funding responsibility--boost operation and maintenance spending by about \$4 billion in 1994 compared with 1988. That figure reflects growth in O&M spending since 1988 for health care for all eligible individuals, environmental cleanup and compliance, economic conversion and transition programs, assistance for the disarmament efforts of former Soviet states, and net transfers to O&M from other appropriation categories.

Without these additions, O&M spending in 1994 would have been roughly \$39,000 per active-duty member rather than \$48,000. Adjusted in this way, per capita spending on O&M in 1994 roughly equals the peak levels of

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5. Senate Committee on Appropriations, "Department of Defense Appropriations Bill, 1994," Report 103-153 (October 4, 1993), pp. 32-33.

**FIGURE 13. OPERATION AND MAINTENANCE  
SPENDING FOR EACH ACTIVE-DUTY  
SERVICE MEMBER**



SOURCE: Congressional Budget Office using data provided by the Department of Defense.

the late 1980s. Thus, even after adjusting for growth in O&M spending not related to readiness, O&M spending per active-duty member remains close to its historical high.

Some DoD officials believe that these types of spending will grow in the future and threaten to crowd out O&M activities considered more crucial to ensuring readiness. Although some of these costs (such as environmental compliance) may increase with the tightening of state and local standards, others (such as economic adjustment or demilitarization costs) are likely to decline in future years as the military drawdown is completed.

The fact that per capita spending on activities related to readiness is high by historical standards does not necessarily mean those activities are being fully supported. Changes in the composition of forces, in the cost of supporting weapon systems, and in the mix of military and civilian personnel can all affect the level of O&M that is required to support forces at a high level of readiness. In addition, the drawdown process itself imposes certain short-run costs, such as the expense of bringing equipment back from Europe. Moreover, until DoD finishes consolidating and reducing its infrastructure of bases, supply depots, and maintenance depots, it will face fixed overhead costs that could significantly increase the level of per capita spending needed to maintain a ready force. A look at some of the specific activities that contribute to future readiness--depot maintenance, the supply system, and real-property maintenance--may provide greater insight into whether DoD is in fact adequately funding those support activities.

## DEPOT MAINTENANCE

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Depot-level maintenance refers to those maintenance tasks--such as rebuilding engines or overhauling ships--that can be done most efficiently in specialized industrial facilities, either shipyards or depots. Shortfalls in depot maintenance are a potential early-warning indicator of readiness problems, since resources devoted to depot maintenance contribute to equipment condition in the future. According to DoD estimates, it usually takes a year for shortfalls in depot maintenance to become apparent as readiness problems in operational units.

DoD uses two closely related measures to indicate the adequacy of total funding for depot maintenance: the depot maintenance backlog and the percentage of requirements that are funded. Each service constructs a total requirement for depot maintenance from the bottom up based on its equipment inventories and on specific maintenance practices for each type of

equipment. The depot maintenance backlog identifies the dollar value of those requirements that are not funded. The percentage of requirements that are funded looks at the ratio of funded requirements to total requirements (defined as funded requirements plus the unfunded backlog).

Viewed in isolation, both of these measures seem to indicate a serious potential readiness problem. In 1994, the maintenance backlog, adjusted for inflation, is at a record-high level of roughly \$2 billion--more than three times the average level for the 1980-1993 period (see Figure 14). At the same time, the percentage of requirements that are funded, which averaged 94 percent between 1980 and 1993, is at a record low of 75 percent (see Figure 15). In order to achieve a 94 percent funding rate in 1994, DoD would have to spend an additional \$1.5 billion.<sup>6</sup>

But DoD may not need to fund its stated depot maintenance requirement in order to maintain a high degree of readiness. Depot maintenance requirements and backlogs reflect the total quantity of equipment in need of maintenance; as a result, these indicators may be very misleading during a force drawdown. As units are taken out of the force structure, some equipment is freed up that could be left in the backlog without creating a significant risk to the operational readiness of the units that remain. During a significant drawdown in military forces, a different definition of depot maintenance requirements may be needed--one that excludes items that are part of an acceptable level of backlog and focuses only on assets that must be repaired promptly in order to ensure that essential war reserves are maintained and that the demands of operational units are met.<sup>7</sup> Without such a definition, it may be difficult to distinguish between the funding that DoD requires to maintain current levels of readiness and sustainability and funding that would enhance those levels.

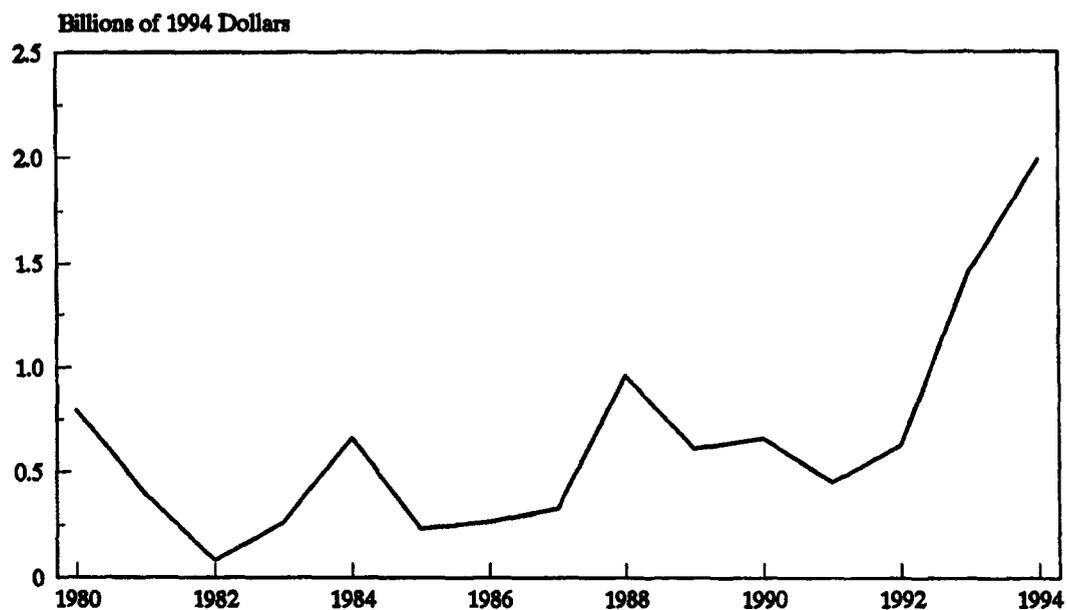
Current depot maintenance requirements may be particularly misleading in the case of the Army. In that service, many of the assets freed by reductions in the size of the active component are being sent to depots for reconditioning before being redistributed to modernize reserve units or fill previously existing equipment shortages. The Army is funding only 64 percent of its maintenance requirement in 1994. Yet General Gordon Sullivan, Army Chief of Staff, indicates that the principal impact of the resulting backlogs will

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6. These estimates are based on the President's 1994 budget adjusted for Congressional action.

7. To the extent that the readiness of units that will remain in the force structure is the primary concern, it may also be appropriate to exclude at least part of the customary maintenance requirement for equipment that will soon be retired.

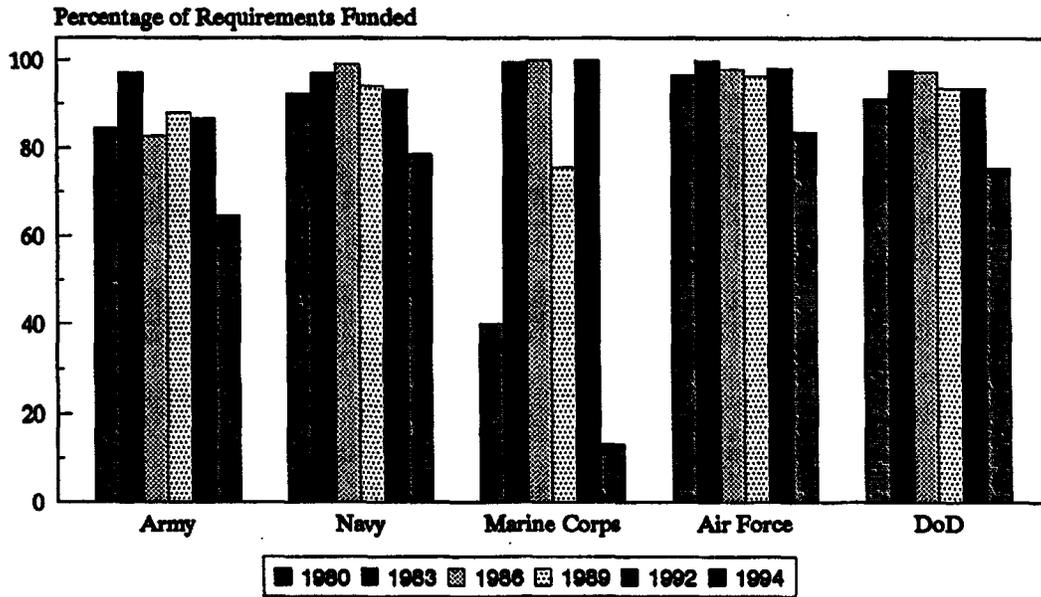
FIGURE 14. TOTAL DEPOT MAINTENANCE BACKLOG



SOURCE: Congressional Budget Office based on Department of Defense data.

NOTE: Figures represent the backlog of depot maintenance for active-component equipment funded through the operation and maintenance appropriations. Historical data are adjusted to exclude depot-level reparables.

**FIGURE 15. DEPOT MAINTENANCE FUNDING RELATIVE TO REQUIREMENTS**



SOURCE: Congressional Budget Office based on Department of Defense data.

NOTE: Figures reflect operation and maintenance funding and requirements for active-component depot maintenance. Depot-level repairables are excluded in all years.

be to slow the redistribution of modern weapon systems from active to reserve units rather than to degrade current readiness levels.<sup>8</sup> The Marine Corps's depot maintenance requirement may also include assets that are not required to ensure the operational readiness of existing units. Tight budgets notwithstanding, there is no other obvious explanation of the fact that the Marine Corps's 1994 budget request included funding for only 13 percent of its depot maintenance requirement.

Another reason that depot maintenance requirements can be misleading in a drawdown is that--as uncertainty about the nature and timing of reductions in the force structure is resolved--some of the stated requirement for current and future years may not materialize. For example, the O&M overview that accompanied the President's 1994 budget request indicates that even if the Navy allocated \$7.5 billion to depot maintenance over the two-year period of 1993 and 1994, its depot maintenance backlog would still rise to \$1.1 billion by 1994. Although the overview that corresponds to the 1995 budget request has not yet been published, preliminary data suggest that the Navy actually allocated \$6.9 billion to depot maintenance in 1993 and 1994 but that the resulting 1994 backlog will be only \$0.7 billion. Although this is partly explained by a transfer that moved some software maintenance out of the depot maintenance category, reductions in force structure that eliminated requirements also played a role.

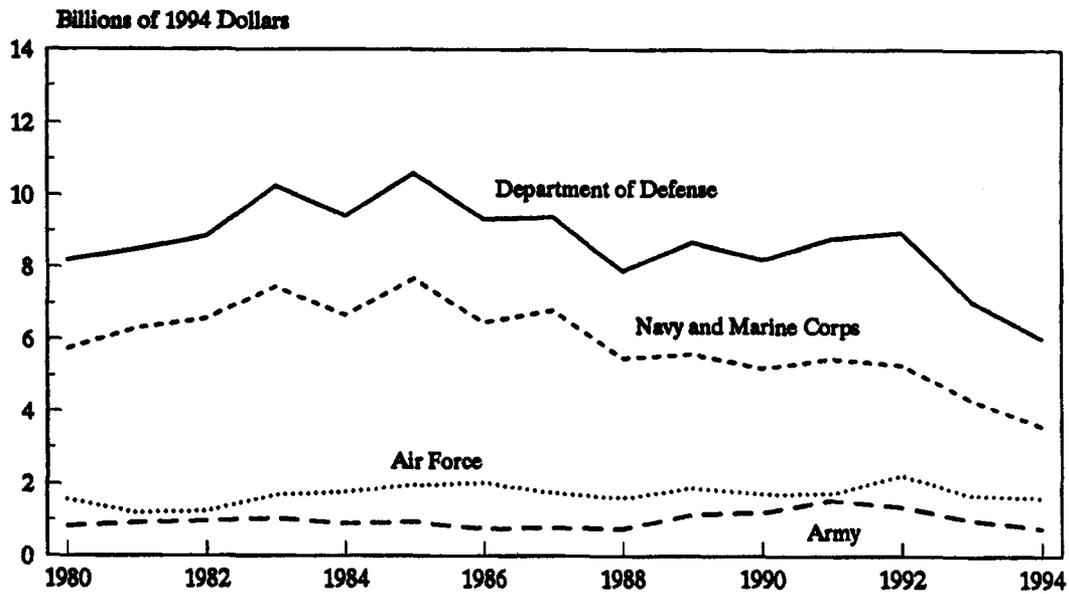
Given that stated requirements can be misleading, how can current levels of funding for depot maintenance be evaluated? One approach is to compare the current ratio of depot maintenance funding to force structure with what prevailed in the past. That simple comparison could also be misleading, however, because of changes in the mix of the force structure, in maintenance practices, and in the way DoD sets the prices that its maintenance depots charge. Nevertheless, during a period of declining forces, that approach could be more useful than DoD's current measures of backlog or funded requirements.

CBO examined the ratio of depot maintenance funding to force structure, using the number of active-duty military personnel in the strategic and tactical Defense Planning and Programming Categories as a proxy for force structure. As the measure of funding, CBO used operation and maintenance funding for the depot-level maintenance of active-component equipment, adjusted for the rate of inflation in the U.S. economy as a whole (see Figure 16).

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8. Comment made by General Sullivan in an insert for the record of a May 19, 1993, hearing of the Senate Committee on Appropriations.

FIGURE 16. DEPOT MAINTENANCE FUNDING



SOURCE: Congressional Budget Office based on Department of Defense data.

NOTE: Funding reflects operation and maintenance appropriations for depot maintenance of active-component equipment. Funding for depot-level repairables is excluded in all years.