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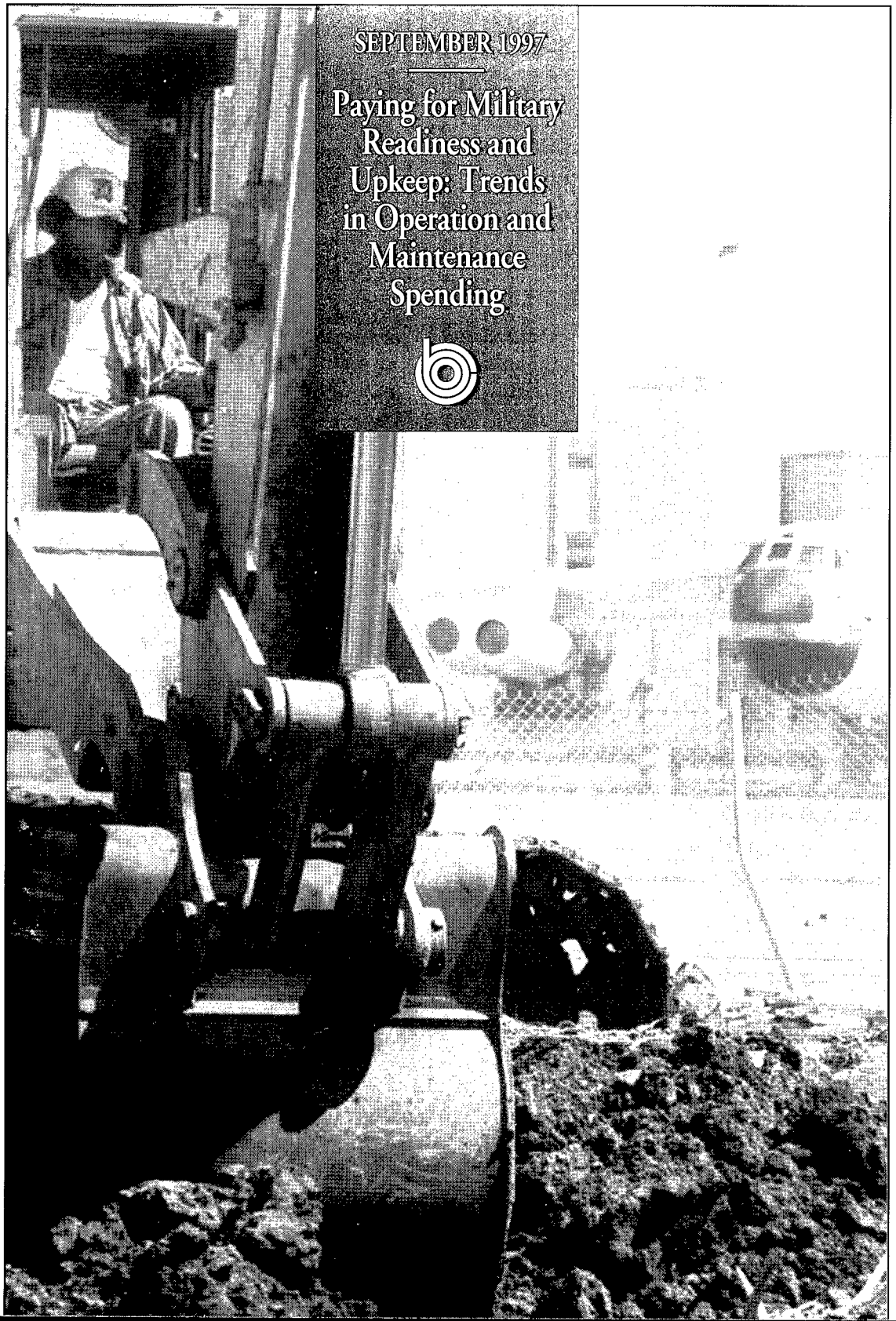

SEPTEMBER 1997

Paying for Military Readiness and Upkeep: Trends in Operation and Maintenance Spending

PAYING FOR MILITARY READINESS AND UPKEEP: TRENDS IN OPERATION AND MAINTENANCE SPENDING

The Congress of the United States
Congressional Budget Office

NOTES

Numbers in the text and tables may not add to totals because of rounding.

All dollar amounts are expressed in 1996 dollars unless otherwise noted.

All years are fiscal years unless otherwise indicated.

Cover photo shows Laury Air Force Base in Denver, Colorado. (Kevin Moloney/ New York Times Pictures)

Preface

Pressures to find money for new weapon systems are pushing the Department of Defense (DoD) to take a fresh look at its infrastructure. Spending on operation and maintenance (O&M) is one of the chief sources of funding for infrastructure. In order to realize its plans and meet the level of defense spending included in the 1998 Congressional budget resolution, DoD may have to cut $11 billion from its current level of annual spending on O&M by 2002. In light of past trends, that could be difficult and would require either major changes in the amount or method of providing O&M support or reductions in the number of forces.

This analysis, prepared by the Congressional Budget Office (CBO) for the Defense Subcommittee of the Senate Committee on Appropriations, examines how O&M spending grew in the 1980s and fell in the 1990s. The study highlights changes that could be made to achieve lower levels of spending by 2002. In keeping with CBO's mandate to provide objective analysis, the study makes no recommendations.

Amy Belasco of CBO's National Security Division prepared the study under the general supervision of Cindy Williams and Neil Singer. Ellen Breslin Davidson wrote the section on DoD's health care spending, and Wayne Glass contributed the section on DoD's environmental security program in Chapter 2. The author would like to thank Nathan Stacy, Shaun Black, Doug Taylor, Jofi Joseph, and Evan Christman for their help in organizing and verifying large amounts of data. She is also grateful to the many people in the Department of Defense and the military services for providing data and answering numerous queries. Michael Miller of CBO and Stanley Horowitz of the Institute for Defense Analyses provided helpful comments on an earlier draft of the study, and Amy Plapp, Kent Christensen, and Lisa Siegel of CBO helped with cost estimates.

Sherwood Kohn edited the manuscript. Cindy Cleveland and Judith Cromwell produced drafts of the study. Kathryn Quattrone and Jill Sands prepared the report for publication.

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Summary

Confronted with a budget that is declining and then likely to remain level, the Department of Defense (DoD) faces a funding challenge: how to find more money to modernize its current inventory of weapon systems. Testifying before the Congress in February of 1997, then Deputy Secretary of Defense John White declared that defense reform would be one of the major ways to meet that challenge. In fact, White concluded, "defense reform is a fiscal imperative."

DoD's plans for future reductions in spending on operation and maintenance (O&M) are further evidence of its intent to carry out defense reforms. O&M spending supports the training, supply, and equipment maintenance of military units as well as the administrative and facilities infrastructure of military bases. That spending makes up 37 percent of the total defense budget. Along with funding for military personnel, O&M spending is the chief source of support for the defense infrastructure and, hence, one of the prime targets of reform efforts.

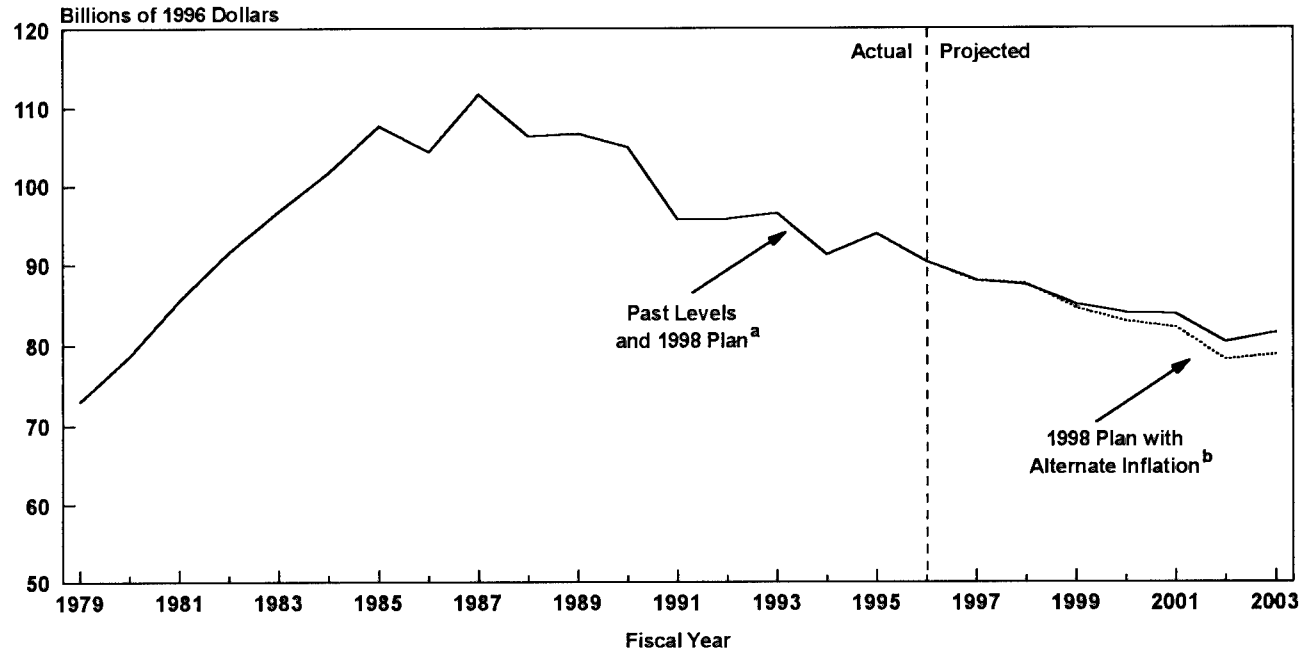
Operation and maintenance spending, however, is also considered one of the major components of DoD's funding for readiness. (The other, spending on military personnel, is not discussed in this study.) Determined to prevent a return to the so-called hollow forces of the late 1970s, when there were reports of inadequate readiness, the Administration, the Secretary of Defense, and the services have all stated their commitment to fund fully those programs essential to maintaining ready forces. But the need to maintain readiness may have to be met with resources constrained by both smaller defense budgets and the competing needs of other defense programs, principally the growing drive to fund the next wave of defense modernization.

Under both the Administration's plan for 1998 and this year's Congressional budget resolution, overall defense spending is slated to fall by about 6 percent between 1996 and 2002. Spending on O&M in 2002 would fall more steeply, to about $80 billion in the Administration's plan, which is about $10 billion, or 11 percent, lower than its level in 1996 (see Summary Figure 1). The 1998 Congressional resolution proposes an amount of spending for defense in 2002 that is the same as that assumed by the Administration. The Congressional Budget Office (CBO) uses 1996 as a baseline because it is the latest year for which the actual spending level is available. Reductions from the 1997 level of O&M spending would be more modest: a decrease of over $7 billion.

Greater cuts in O&M spending could be necessary if the Administration's assumptions about inflation for purchases and civilian pay prove to be overly optimistic, as they have in the past. Using less optimistic CBO assumptions for inflation and pay, O&M spending might have to be reduced by an additional $2 billion in 2002 to cover those costs. Including the effect of higher inflation, it would be necessary to cut total O&M spending by about $12 billion from the 1996 level and $10 billion from the 1997 level.

DoD is likely to realize some savings in O&M from base closures that are already under way as a result of recommendations by the Base Realignment and Closure Commissions. Based on DoD estimates, closures will

Summary Figure 1.
Past and Alternate Future Levels of Spending for Operation and Maintenance, 1979-2003



SOURCE: Congressional Budget Office (CBO) based on data from the Department of Defense.

NOTES: Spending levels are expressed in total obligational authority, adjusted to reflect changes in financing conventions and to exclude spending on Desert Shield/Desert Storm and other contingencies.

Alternate assumptions are based on CBO's estimates for the 1998 budget for inflation in purchases and changes in civilian pay.

a. Reflects the Administration's plan and inflation assumptions as of the 1998 budget.

b. Reflects CBO's alternate inflation assumptions.

reduce O&M spending from the 1996 level by about $1.3 billion. Taking those savings into account, total O&M spending may have to be cut by about $11 billion. Although the Congress and DoD have made some cuts in O&M spending in recent years by trimming programs, a reduction of $11 billion could be difficult to achieve, particularly because reductions in force structure are largely complete. A decrease of that magnitude would equal about three-quarters of the total reduction in O&M from the defense drawdown that began in 1990. The drawdown followed a decade of growth in O&M spending during which support of military personnel became increasingly expensive.

Past Spending Trends in Operation and Maintenance

At first glance, the prospect for reducing O&M spending might seem bleak. Over the past 25 years, O&M spending per active-duty military person has grown in real terms at an average rate of more than 3 percent a year. The Administration's plan assumes a dramatic reversal of that trend. If the trend was projected over the next five years, total O&M spending would be $18 billion higher than the Administration's plan by 2002.

Summary Table 1.
Spending for Operation and Maintenance and Indicators of Workload in the 1980s and 1990s

	1981	1989	1996
Total O&M Spending (Billions of 1996 dollars)			
O&M Appropriation	86	107	92
Force Structure (Number of units/platforms)[a]			
Army Divisions	16	18	10
Ships	460	492	288
Air Force Tactical Wings	24	24.6	12.5
Training Levels (Thousands)[a]			
Army Tank Miles	3,085[b]	3,313	1,668
Navy Underway Steaming Hours	1,165	1,251	812
Air Force Flying Hours	1,181	1,255	651
Personnel Levels (Thousands)			
Active-Duty			
Army	781	770	495
Navy	540	593	428
Marine Corps	191	197	174
Air Force	570	571	388
Total	2,082	2,131	1,485
Reserves	917	1,170	1,019
Real Estate (Millions of square feet of buildings)			
Floor Space	1,697	1,802	1,530

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

NOTES: Tactical Air Force wings are measured in "wing equivalents," which divide the number of aircraft authorized for units by 72, the average size of a wing. Navy ships include all submarines, surface ships, and most support ships. The Congressional Budget Office's totals for spending on operation and maintenance (O&M) include a variety of adjustments in total obligational authority to reflect changes in financing conventions over the years (see Appendix A).

a. Active-duty forces only.

b. Reflects the 1982 level. The level for 1981 is not available.

Summary Table 2.
Changes in Spending for Operation and Maintenance and Indicators of Workload in the 1980s and 1990s (In percent)

	Change Between		
	1981 and 1989	1989 and 1996	1981 and 1996
Total O&M Spending			
O&M Appropriation	24	-14	7
Force Structure[a]			
Army Divisions	13	-44	-38
Ships	7	-41	-37
Air Force Tactical Wings	3	-49	-48
Training Levels[a]			
Army Tank Miles	7[b]	-50	-46[b]
Navy Underway Steaming Hours	7	-35	-30
Air Force Flying Hours	6	-48	-45
Personnel Levels			
Active-Duty			
Army	-1	-36	-37
Navy	10	-28	-21
Marine Corps	3	-12	-9
Air Force	0	-32	-32
Total	2	-30	-29
Reserves	28	-13	11
Real Estate			
Floor Space	6	-15	-10

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

NOTES: Tactical Air Force wings are measured in "wing equivalents," which divide the number of aircraft authorized for units by 72, the average size of a wing. Navy ships include all submarines, surface ships, and most support ships. The Congressional Budget Office's totals for spending on operation and maintenance (O&M) include a variety of adjustments in total obligational authority to reflect changes in financing conventions over the years (see Appendix A).

a. Active-duty forces only.

b. Change measured from the 1982 level. The level for 1981 is not available.

That long-term trend, however, does not reveal the patterns in O&M funding, which may point to ways of constraining spending in the future.

Between 1979 and 1981, total O&M spending grew by $12 billion, or 17 percent, primarily in reaction to concerns about readiness raised in the late 1970s. In the next eight years, O&M spending grew by an additional 24 percent—from $86 billion in 1981 to $107 billion in 1989. The substantial expansion in O&M spending in the 1980s outstripped the modest growth seen in several indicators of "workload" demand for O&M resources: force structure (the number of military units), training levels (tank miles for the Army, steaming hours for the Navy, and flying hours for the Air Force), the number of active-duty military personnel, and the extent of real estate managed by the services (see Summary Tables 1 and 2).

O&M spending and those indicators of workload also diverged in the 1990s after the military drawdown. Between 1989 and 1996, O&M spending fell to about $92 billion, a decline of 14 percent. That decline, however, was more modest than reductions in force structure and training levels, which ranged between 35 percent and about 50 percent. In light of the discrepancies between spending and workload, military forces are now relatively more expensive to support than they were in the past; hence, total O&M spending in 1996 is about 7 percent greater than it was in 1981 despite the smaller number of forces.

Shifts in the Composition of O&M Spending

One way to look at changes in O&M spending over time is to examine how its composition varied. Using budget categories developed in response to Congressional concerns, O&M funding can be split into "mission-related" and "infrastructure-related" spending. Mission-related O&M can be thought of as spending to train and support forces that may ultimately be deployed in a conflict; it pays for field training by operating and mobility forces (see Summary Table 3). Infrastructure-related O&M pays for training and recruiting, administrative and servicewide support, and base support in the United States for those forces.

Given those categories, the share of O&M spending devoted to mission has fallen by 5 percentage points—from 46 percent to 41 percent of all O&M funding—since 1981. That drop reflects primarily the large drop in spending on operating forces attributable to the military drawdown. The share devoted to infrastructure has grown, partly because spending on indirect support has fallen less than spending on operating forces and partly because some types of defensewide support have increased despite the drawdown. Reflecting those two trends, O&M spending dedicated to infrastructure now makes up 59 percent of the total.

Summary Table 3.
Mission- and Infrastructure-Related Spending as a Share of Total Spending for Operation and Maintenance (In percent)

Budget Activity	1981	1989	1996
Mission-Related Spending			
Operating forces	43	43	36
Mobilization	4	3	5
Subtotal	46	46	41
Infrastructure-Related Spending			
Training and recruiting	5	5	5
Administrative and servicewide support	26	27	33
Base support	24	22	21
Subtotal	54	54	59
Total	100	100	100
Memorandum:			
Operation and Maintenance Spending (Billions of 1996 dollars)	85.8	106.9	91.9

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

NOTES: Includes all spending for operation and maintenance (O&M) by active-duty and reserve forces as well as funding managed on a defensewide basis. Spending reflects total obligational authority, which includes any additional funding transferred into or out of O&M appropriations during budget execution.

Growth in Defensewide O&M Spending

Defensewide O&M spending pays for a variety of support that is common to the services and bears little relationship to force structure. About 40 percent of the $21 billion increase in O&M spending in the 1980s was dedicated to defensewide O&M spending, doubling its share of total O&M spending.

Between 1989 and 1996, defensewide O&M continued to grow, reaching a total of $25 billion and making up about 27 percent of total O&M spending in 1996. DoD will have difficulty meeting lower O&M spending levels in the future unless that rapid growth in spending can be reversed through policy changes or more efficient operations.

The rapid growth in defensewide O&M reflects several factors. In DoD's $10 billion health care program, the most significant reason for growth is external pressure on costs. The 50 percent growth in DoD's health care spending during the past 15 years reflects the same factors that affect civilian health care: aging of the beneficiary population, an increase in the volume of health care services and procedures per visit or hospital stay, and expanded use of new and high-cost procedures. The continued high level of spending since the drawdown also reflects overcapacity in the direct care system of military hospitals and clinics.

The new responsibilities assigned to DoD in "nontraditional" defense areas, such as drug interdiction and environmental programs, exert another important pressure on defensewide spending. Those additional responsibilities account for about one-third of the growth in defensewide O&M spending since 1981 and two-thirds of the continued growth since the drawdown. Reducing that spending could require policy decisions to change DoD's role or modifications of statutes that apply governmentwide, such as those in the environmental area.

Growth in O&M Spending by the Services

Unlike spending on defensewide support, spending by the individual services would be expected to change in response to modifications in standards of readiness or the size of force structure. Operational readiness measures the ability of forces to deploy quickly and perform as they were designed to in wartime. CBO has found little relationship, however, between trends in spending and readiness levels. Nor are changes in force structure an adequate explanation for shifts in spending. Trends in spending over the past 15 years suggest that the decline in the efficiency with which support is provided, particularly since the drawdown, is another important factor.

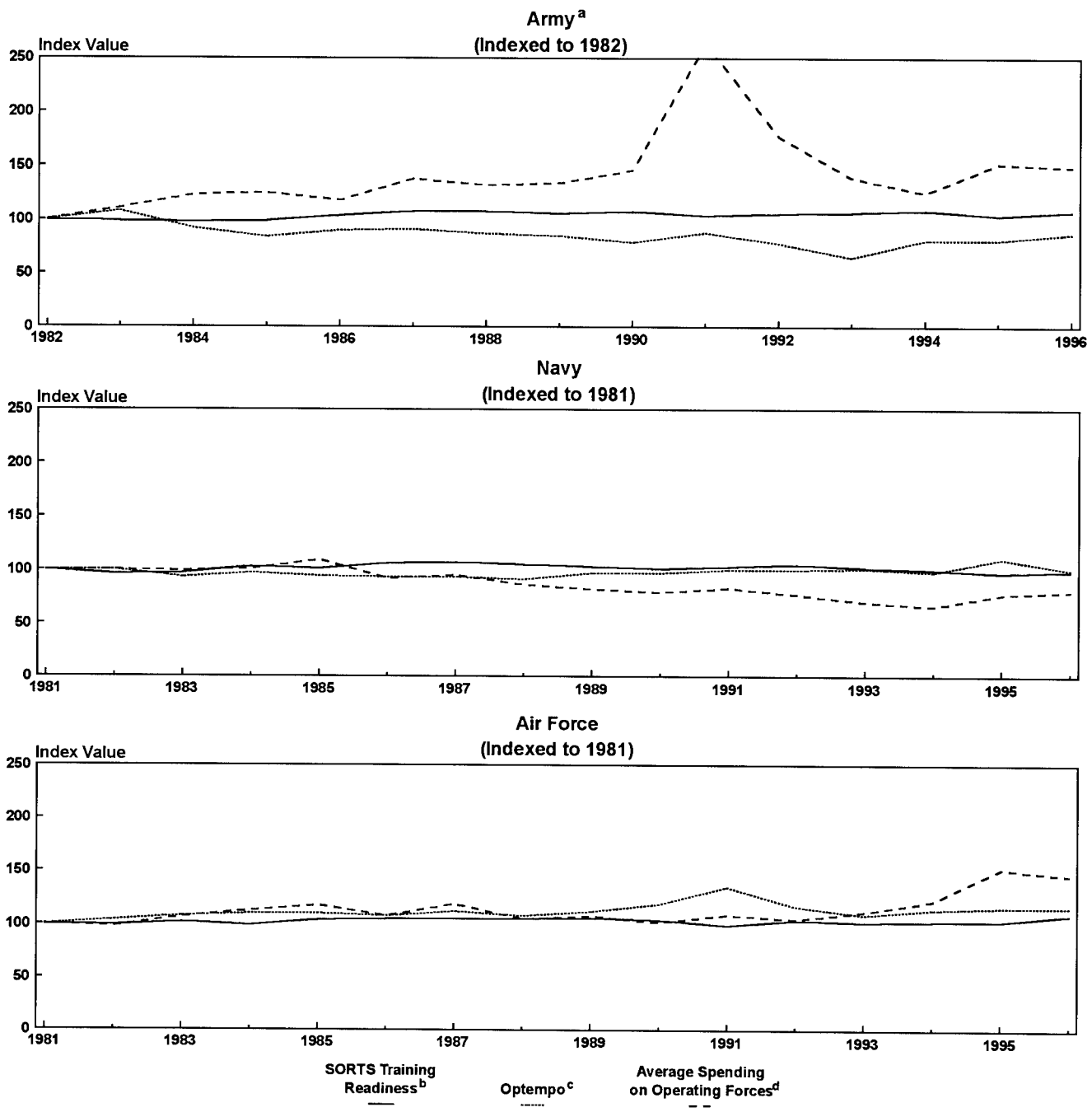
Improving or maintaining high readiness levels has been the justification for increases in O&M spending in the 1980s and for maintaining currently high levels of O&M spending per capita. In particular, one would presume that spending on field training of operating forces and readiness levels would be related: higher spending should result in improved readiness and vice versa. That has not proved to be the case, however.

Using several indexes, CBO compared indicators of readiness with average spending levels for operating forces over time (see Summary Figure 2). The services report the readiness of individual units to the Joint Chiefs of Staff through the Status of Resources and Training System (SORTS). SORTS scores can be compiled to show the percentage of total units that meet current standards for training or have their equipment in working order and are ready to go into combat.

In addition to SORTS scores, training readiness is measured by operating tempo, or optempo, which represents the standards that the services set for the amount of unit training considered necessary over the course of a month, a quarter, or a year to maintain combat skills. The Air Force tracks flying hours per crew per month; the Navy, the average number of steaming days for training for nondeployed ships; and the Army, the average number of tank miles driven per year.

Indicators of training readiness have not changed in relation to average spending for those personnel assigned to operational units. SORTS scores have stayed remarkably steady over the past 15 years, remaining at high levels, and optempo has changed little. Over the same period, average spending for operating forces in the Army and Air Force rose significantly, particularly in the 1990s. Average spending for the Navy gradually declined, but its indicators of readiness remained high. Those long-term trends suggest little linkage between

Summary Figure 2.
Changes in Indicators of Training Readiness and Spending in the 1980s and 1990s



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

NOTE: The figures show rates of change compared with the levels in the base year. In other words, the vertical axis represents an index in which the base year equals 100 in each category.

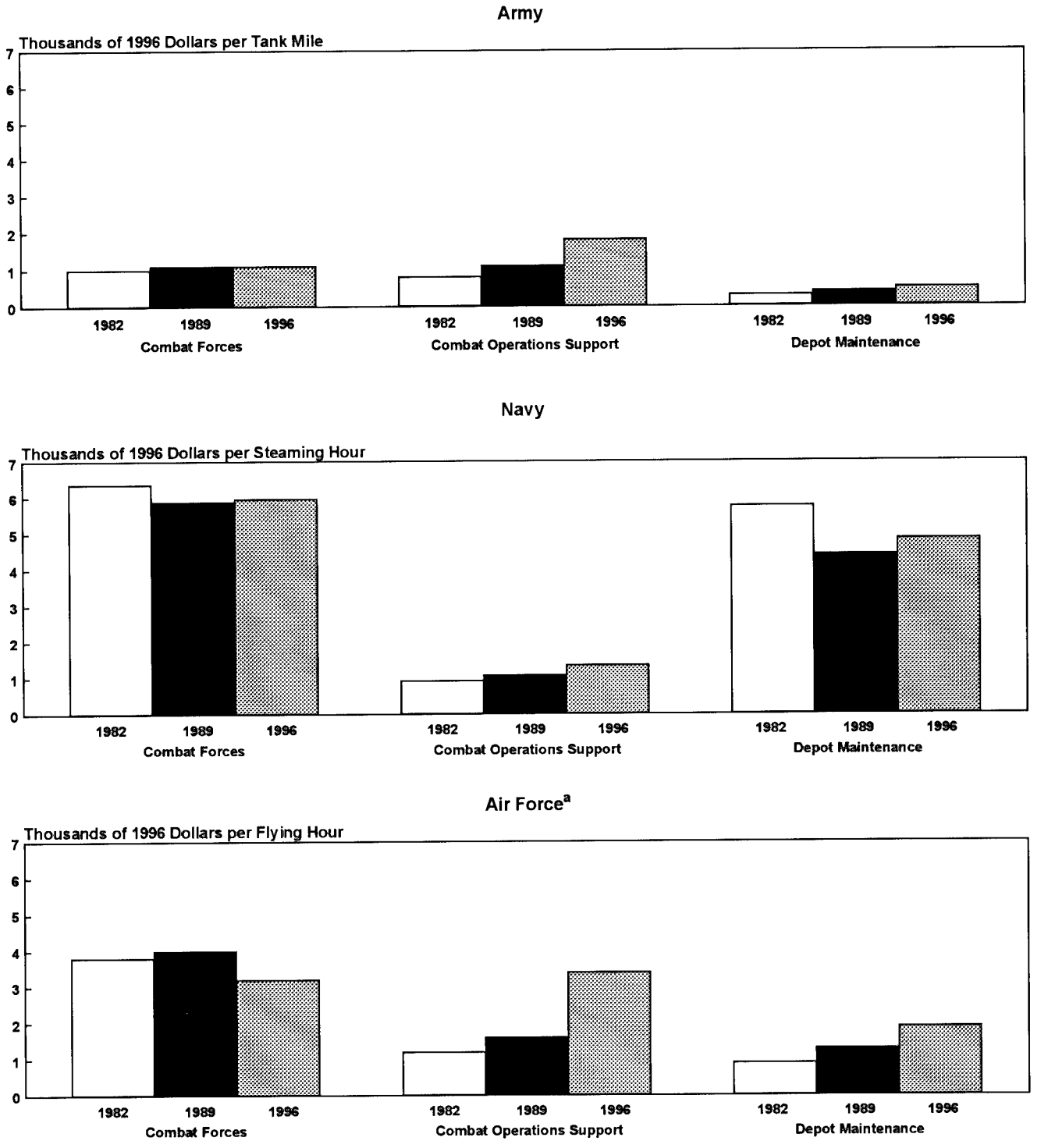
a. The spike in Army spending reflects additional costs associated with Desert Shield/Desert Storm. Army data are indexed to 1982 because ground optempo cannot be computed before that date.

b. *Status of Resources and Training System (SORTS)* scores for training readiness show the portion of the force that is considered sufficiently trained to perform its duties in wartime.

c. *Optempo*, or operating tempo, measures the frequency of field training. Average number of tank miles per year are used in the Army, average steaming hours under way for nondeployed ships in the Navy, and average flying hours per month in the Air Force.

d. *Average Spending on Operating Forces* reflects the total amount spent to operate and maintain equipment divided by the number of personnel assigned to strategic or tactical units.

Summary Figure 3.
Changes in Average Operating Spending in the Army, Navy, and Air Force



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

NOTE: Excludes funding for Bosnia in 1996. Active-duty forces only.

a. Spending per flying hour excludes support of space operations and global command, control, and communications that provide support for all forces.

the resources expended and the readiness levels achieved. Nor are there signs of a relationship between changes in average spending and indicators of equipment readiness. Spending for operating forces appears to have varied in response to other factors.

Growth in average spending levels for operating forces reflects the fact that spending also has not increased or decreased in proportion to changes in force structure. Although direct spending to support operating forces per hour or mile of training has remained stable since 1982, the amount spent on combat operations support—which funds headquarters and tactical support units—has risen dramatically in the Army and Air Force (see Summary Figure 3). Those increases reflect various initiatives to expand and improve the quality of support in the 1980s and the difficulties associated with downsizing in the 1990s.

Increases in the average amount of spending for infrastructure-related O&M are other indicators of growing inefficiency in the ways support is provided. For example, the average amount spent on administrative support per active-duty member of the armed forces has grown by 15 percent to 40 percent over the past 15 years. And the number of square feet of building space maintained per person has also risen despite the closing of facilities in response to recommendations by two commissions on base closures and realignments.

Some people would argue that spending on infrastructure cannot be expected to adjust to cuts in force structure. After all, only direct costs are variable and fall with workload, and indirect types of support are assumed to be fixed. But in the private sector, when the volume of sales shrinks, firms must adjust their fixed costs by shedding workers, closing buildings, selling capital equipment, or expanding to other lines of business. Otherwise, faced with competitors who charge lower prices, they are likely to go out of business. In the long term, all costs are variable.

Strategies for Reducing O&M Spending

Both the Administration and the Congress have called for substantially lowered spending on O&M. To reduce it by about $11 billion by 2002, DoD can use a variety of approaches:

- Redefine the scope of DoD's responsibilities,
- Reduce the amount of O&M support,
- Change the way services are delivered,
- Cut military bases, or
- Trim force structure further.

In view of past trends, spending on O&M is unlikely to decline or even stabilize in the future unless DoD makes major changes in the amount or the ways that it provides support.

The dramatic growth in defensewide spending could be reversed if DoD narrowed the scope of its responsibilities. For example, spending levels in the department's health care program could be cut significantly if DoD limited its role to meeting the wartime medical needs of active-duty personnel. Care of other beneficiaries—dependents of active-duty personnel and retirees and their families—could be turned over to the civilian sector. If beneficiaries were offered coverage under a civilian plan and charged a premium similar to that charged to civilian federal employees, spending could be cut by more than $2 billion a year. Although that change in policy would be controversial, the impact on readiness would be minimal and the savings substantial.

DoD could also choose to reduce selectively the amount of O&M support it provides. One example is a proposal to adopt a practice of "tiered" readiness under which training would be trimmed for those units that are likely to be deployed later during a conflict. An option that would reduce training levels for those units could save about $450 million a year.

Changing the way that support is provided can take a variety of forms. One method of improving its efficiency is to consolidate military equipment at fewer bases. Another approach is to reduce duplication by assigning a support mission solely to one service. Although it is difficult to estimate savings from consolidations, some evidence suggests that new organizations are more likely to reduce staffing levels in proportion to

workload and to shed excess infrastructure. If that is the case, DoD may recoup any up-front costs and save more than the overhead savings from the consolidation itself. Consolidations can provoke substantial opposition, but they do not harm readiness.

Still another way of changing the delivery of support—one that has received considerable attention recently—is the proposal to "outsource" a wide range of support functions. Outsourcing initiatives must overcome significant obstacles that range from statutory and regulatory restrictions to protests about equity and economic impact. If the barriers could be overcome, and DoD could target the types of O&M support most similar to those currently performed by private firms, DoD could save several billions of dollars.

The convening of a new commission on base closures is another approach to reducing O&M spending that the Secretary of Defense recently endorsed. A base closure commission that met in 1998 and 2000 could save DoD more than $500 million in O&M spending by 2002.

If DoD is unable to make changes in the amount of support or the methods by which it is provided, the services could face a still more unpalatable choice: substantial reductions in force structure. CBO estimates that if DoD was to rely solely on cuts in force structure to reduce O&M spending by about $11 billion, training levels and the associated forces would be cut by about 23 percent in the Army, 24 percent in the Navy, and 36 percent in the Air Force by 2002.

Although those reductions can be made fairly simply and quickly, experience indicates that cuts in forces would have to be about twice as large in percentage terms as the savings in total O&M spending. That discrepancy reflects the experience during the drawdown when operating spending for field training of units bore the brunt of the cuts because other areas of O&M spending either declined little or grew. Faced with the prospect of further cuts in force levels or postponements in its modernization plans, DoD may be willing to adopt difficult and controversial changes in the amount and ways that O&M support has been provided, as well as trim the number of military bases to reduce excess capacity.

Chapter One

The Need to Reduce Operation and Maintenance Spending Levels in the Future

Although defense spending has been largely spared in the recent drive to curtail or eliminate the federal deficit, the Congress's 1998 budget resolution would require that spending on defense be reduced by 2002. That pressure prompts a continuing debate about how to allocate the diminished resources.

One of the Congress's chief concerns is providing sufficient funding to ensure the readiness of U.S. military forces. The Administration, the Secretary of Defense, and the military services have all stated their commitment to preserving current high levels of readiness and avoiding a recurrence of the problems associated with the "hollow forces" of the late 1970s. That commitment may be tested, however, by the growing demand to modernize the Department of Defense's (DoD's) inventory of weapon systems and preserve the current level of forces.

Thus, DoD may face several competing demands in the near future: maintaining high levels of readiness, raising current levels of investment funding, and preserving force structure. In testimony before the Congress, then Deputy Secretary John White stated that DoD expected defense reform to be "one of the major elements of our efforts to free resources for higher priority programs" and declared reform to be "a fiscal imperative."[1] DoD is regarding defense reform as a way to reduce spending on operation and maintenance (O&M) without jeopardizing readiness. Operation and maintenance spending pays for the training, supply, and equipment maintenance of military units as well as the administrative support and facilities infrastructure of military bases.

The definition of military readiness is a crucial factor in considering the issues. The Congressional Budget Office (CBO) uses the Joint Chiefs of Staff's definition of readiness, which is also referred to as *operational* or *current* readiness: the ability of forces to deploy quickly and perform initially in wartime as they were designed.[2] That definition does not signify what some policymakers and military leaders have recently characterized as future readiness, which is defined as the investment in new weapon systems that may be necessary to ensure that future capabilities are adequate. Senator John McCain, former Chairman of the Readiness Subcommittee of the Senate Committee on Armed Services, is one who has emphasized the importance of adequately funding weapons modernization so as not to "put our future readiness at risk."[3]

Two types of defense spending support operational readiness. The first is operation and maintenance spending, and the second is funding for military pay and benefits, which helps ensure that highly qualified

1. Statement of John White, Deputy Secretary of Defense, before the House Committee on National Security, February 26, 1997.

2. Joint Chiefs of Staff, *The Dictionary of Military and Associated Terms*, Joint Publication 1-02 (March 23, 1994).

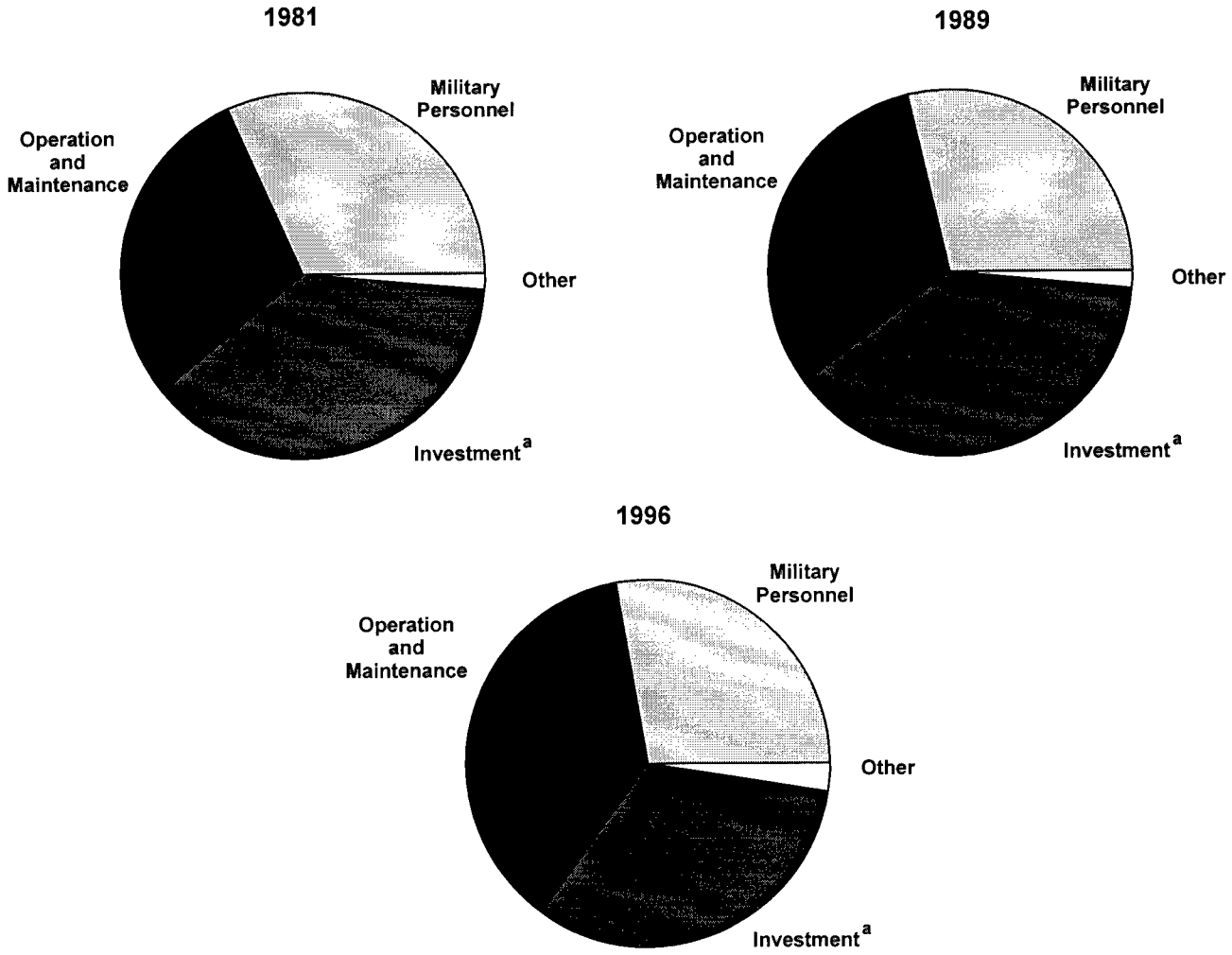
3. Senator John McCain, *Ready Tomorrow: Defending American Interests in the 21st Century* (March 1996), pp. 2 and 19.

personnel are attracted to and retained in the military. The latter is not discussed in this study. Instead, the focus is on spending for the multitude of support activities funded by O&M that now make up a larger share of the total defense budget—37 percent in 1996 versus 29 percent in 1981 (see Figure 1).

Support activities vary in the strength of their ties to readiness. For example, O&M spending supports field training exercises, periodic overhauls of military equipment, and the purchase of spare parts. The level of spending for those functions has an effect on whether units are adequately trained for wartime tasks and whether their equipment is "mission capable," or in working order, two of the main criteria that the services track in evaluating their readiness for war duties.

But O&M also funds a wide variety of other activities that have only a tangential relationship to readiness. Those tasks range from administering the military and civilian payroll, providing peacetime health care for military and other eligible personnel, and subsidizing

Figure 1.
Changes in Shares of Department of Defense Spending by Type in 1981, 1989, and 1996

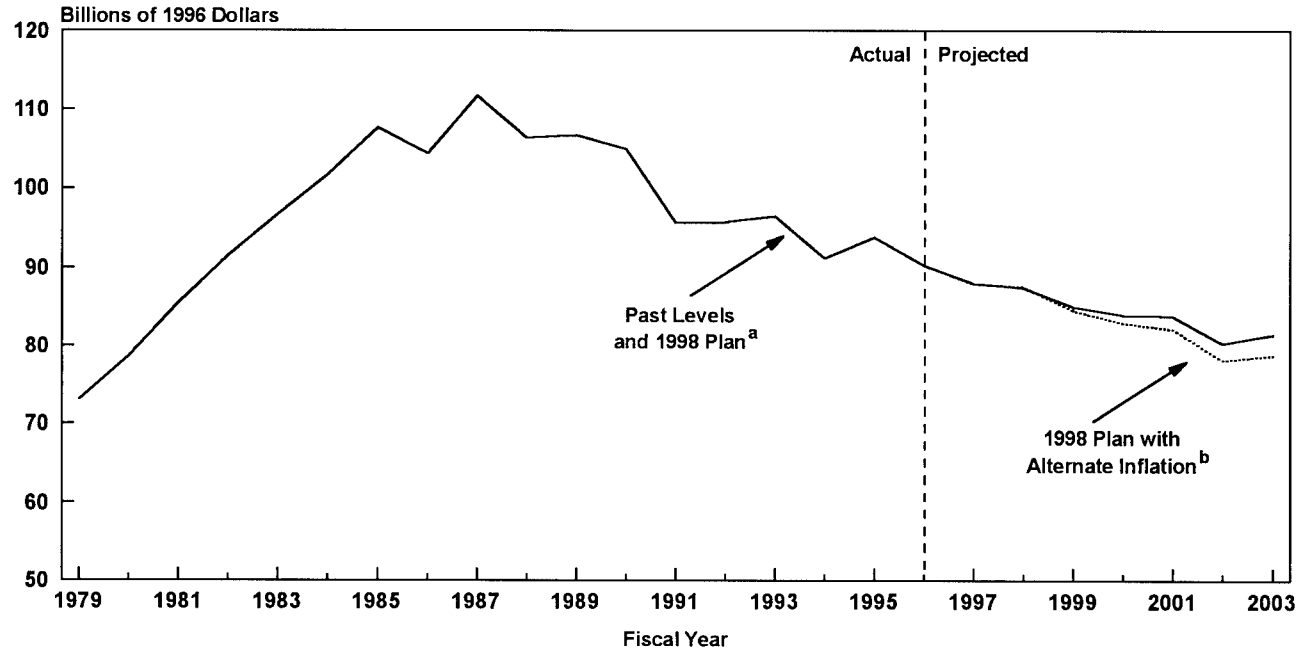


SOURCE: Congressional Budget Office based on data from the Department of Defense.

NOTE: Spending does not include adjustments for transfers between appropriations and excludes supplementals for operations other than war.

a. Includes procurement, research and development, and military construction.

Figure 2.
Past and Alternate Future Levels of Spending for Operation and Maintenance, 1979-2003



SOURCE: Congressional Budget Office (CBO) based on data from the Department of Defense.

NOTES: Spending levels are expressed in total obligational authority, adjusted to reflect changes in financing conventions and to exclude spending on Desert Shield/Desert Storm and other contingencies.

Alternate assumptions are based on CBO's estimates for the 1998 budget for inflation in purchases and changes in civilian pay.

a. Reflects the Administration's plan and inflation assumptions as of the 1998 budget.

b. Reflects CBO's alternate inflation assumptions.

the cost of child care centers for military and civilian personnel, to painting barracks, repairing roads, removing snow, and cutting the grass on military bases. Such day-to-day activities make up more than one-half of total O&M spending.

Spending on O&M is projected to fall significantly in the Administration's 1998 blueprint for national defense in future years. The 1998 Congressional budget resolution adopted a level of defense spending that matches the Administration's level in 2002, which suggests that the Administration's plan may be a reasonable benchmark for future spending levels for O&M.[4] Under the Administration's plan, O&M spending is budgeted to fall to about $80 billion by 2002—about $10 billion and 11 percent lower than the current level using the Administration's estimate of inflation (see Figure 2).[5] (This study uses 1996 as a baseline because it is the latest year for which actual spending is available.) Because O&M spending is slated to fall this year, the reduction from the 1997 level would be smaller, but still over $7 billion.

Inflation could also squeeze operation and maintenance support activities. The Administration's plan for the 1998-2003 period assumes lower levels of inflation for purchases of goods and services and smaller raises in civilian pay than those projected by CBO (see Box 1). If CBO's projections prove correct, the Administration's O&M budget could require about $2 billion more in 2002. That would raise the total amount that O&M spending would have to be cut from the 1996 level to about $12 billion.

4. There are minor differences between the 1998 Congressional budget resolution and the Administration's plan in the intervening years.

5. Contingency funding of $2.9 billion is excluded in 1996.

Base closures are one of the ways by which the Department of Defense expects to meet those lower levels. DoD's budget projections assume that compared with today, it will realize an additional $1.3 billion a year in annual O&M savings by 2001 from base closures that are currently under way. Assuming that those savings materialize, the current level of O&M spending could still have to be reduced by about $11 billion by 2002 to meet the Administration's plan.

DoD could probably cut O&M spending by smaller amounts by trimming programs. In a recent report, for example, the General Accounting Office suggested a variety of ways in which the services could reduce

Box 1.
Projections of Inflation by the Congressional Budget Office and the Administration

The budget of the Department of Defense (DoD) contains funding to cover the effects of inflation, based on the Administration's projections of future military and civilian pay raises, inflation for DoD purchases, and anticipated changes in fuel prices. Each appropriation account is adjusted according to its mix of pay, purchases, and fuel. For example, operation and maintenance (O&M) appropriations typically are composed of about 40 percent civilian pay, 55 percent purchases, and 5 percent fuel. DoD later revises its price indexes to reflect enacted pay raises and actual gross domestic product (GDP) price changes. In this study, the Congressional Budget Office (CBO) used DoD's historical price indexes to convert nominal spending levels in the past to 1996 dollars, constructing specific price indexes for each major budget category of O&M spending on the basis of its mix of civilian pay, purchases, and fuel.

In the President's budget request for 1998, DoD assumed civilian pay raises of 2.8 percent in 1998 and 2 percent a year for the 1999-2002 period. CBO's projections for civilian pay are somewhat higher—about 3 percent a year (see below). CBO's estimate assumes that civilian pay increases would follow the guidelines in the Federal Employee Pay Comparability Act, which calls for civilian pay to increase by the employment cost index less 0.5 percentage points, plus 0.5 percentage points to fund differences in pay among localities. The assumption for civilian pay and the price index for purchases are those used by CBO in its fiscal year 1998 baseline projections.

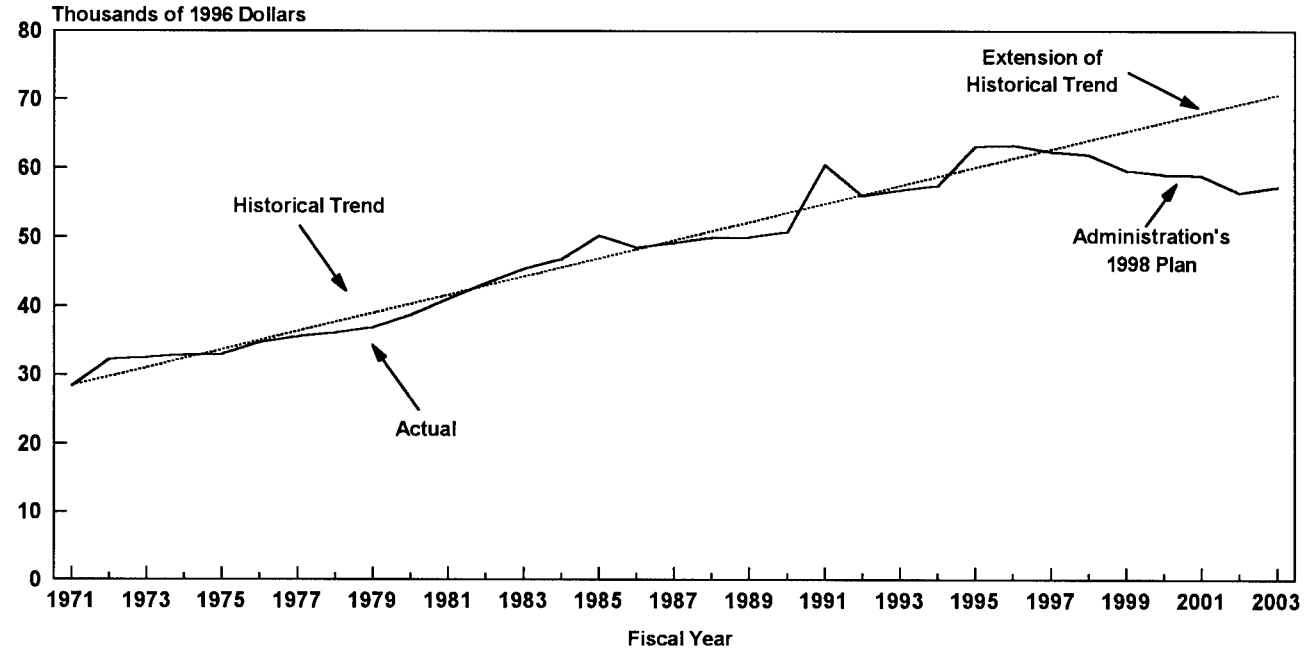
For inflation affecting purchases, the Administration has assumed annual increases in the price index for GDP of 2.2 percent in all years. That assumption may be optimistic. CBO's projections of inflation for DoD purchases are higher than that.

Alternate Assumptions for Civilian Pay and Purchases (In percent)

	Annual Change					
	1997	1998	1999	2000	2001	2002
Civilian Pay Raises						
Administration	3.0	2.8	2.0	2.0	2.0	2.0
CBO	3.0	3.3	2.6	2.9	3.3	3.3
GDP Price Index						
Administration	2.1	2.2	2.2	2.2	2.2	2.2
CBO	2.2	2.4	2.6	2.6	2.6	2.6

SOURCES: Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 1998* (March 1997), p. 51; and Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1998-2007* (January 1997), p. 15.

Figure 3.
Operation and Maintenance Spending per Person, 1971-2003



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

NOTE: Operation and maintenance (O&M) spending per person is computed by dividing total O&M spending by the number of active-duty military personnel. The "historical trend" line reflects a regression based on data from 1971 through 1996, excluding Desert Storm (1991).

O&M spending with minimal programmatic effects.[6] A reduction of $11 billion, however, is about 75 percent as large as the $14.7 billion decrease in O&M spending that has resulted from the entire defense drawdown. The Department of Defense could find it difficult to realize savings of that size, particularly since reductions in force structure are largely complete.

Cutting O&M spending by that amount would require that DoD reverse long-term historical trends. The amount of O&M spending per capita is one simple gauge of O&M spending cited by the Administration as a sign of its commitment to readiness (see Figure 3). Over the past 25 years, O&M spending per capita has risen at an average annual rate of more than 3 percent in real terms. If that trend was to continue, DoD could have trouble supporting its forces within available budgets; the gap between the Administration's plan and the spending level projected on the basis of history would be $18 billion by 2002. But that projection fails to reveal the patterns of O&M spending in the past, which may suggest ways that O&M spending could be reduced in the future.

Spending on Operation and Maintenance in the 1980s and 1990s

O&M spending grew substantially in the 1980s. Some of that growth can be attributed to the general buildup in defense spending, and some took place in response to concerns about readiness problems experienced in the 1970s. In constant 1996 dollars, O&M spending jumped $12 billion—or 17 percent—from 1979 to 1981, the initial years of the buildup (see Box 2). It continued to grow during the rest of the decade—from $86 billion in 1981 to $107 billion in 1989—an increase of 24 percent.

6. General Accounting Office, *1997 DoD Budget: Potential Reductions to Operation and Maintenance Program,* GAO/NSIAD-96-220 (September 1996).

Table 1.
Spending for Operation and Maintenance and Indicators of Workload in the 1980s and 1990s

	1981	1989	1996
Total O&M Spending (Billions of 1996 dollars)			
O&M Appropriation	86	107	92
Force Structure (Number of units/platforms)[a]			
Army Divisions	16	18	10
Ships	460	492	288
Air Force Tactical Wings	24	24.6	12.5
Training Levels (Thousands)[a]			
Army Tank Miles	3,085[b]	3,313	1,668
Navy Underway Steaming Hours	1,165	1,251	812
Air Force Flying Hours	1,181	1,255	651
Personnel Levels (Thousands)			
Active-Duty			
Army	781	770	495
Navy	540	593	428
Marine Corps	191	197	174
Air Force	570	571	388
Total	2,082	2,131	1,485
Reserves	917	1,170	1,019
Real Estate (Millions of square feet of buildings)			
Floor Space	1,697	1,802	1,530

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

NOTES: Tactical Air Force wings are measured in "wing equivalents," which divide the number of aircraft authorized for units by 72, the average size of a wing. Navy ships include all submarines, surface ships, and most support ships. The Congressional Budget Office's totals for spending on operation and maintenance (O&M) include a variety of adjustments in total obligational authority to reflect changes in financing conventions over the years (see Appendix A).

a. Active-duty forces only.

b. Reflects the 1982 level. The level for 1981 is not available.

Table 2.
Changes in Spending for Operation and Maintenance and Indicators of Workload in the 1980s and 1990s (In percent)

	Change Between		
	1981 and 1989	1989 and 1996	1981 and 1996
Total O&M Spending			
O&M Appropriation	24	-14	7
Force Structure[a]			
Army Divisions	13	-44	-38
Ships	7	-41	-37
Air Force Tactical Wings	3	-49	-48
Training Levels[a]			
Army Tank Miles	7[b]	-50	-46[b]
Navy Underway Steaming Hours	7	-35	-30
Air Force Flying Hours	6	-48	-45
Personnel Levels			
Active-Duty			
Army	-1	-36	-37
Navy	10	-28	-21
Marine Corps	3	-12	-9
Air Force	0	-32	-32
Total	2	-30	-29
Reserves	28	-13	11
Real Estate			
Floor Space	6	-15	-10

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

NOTES: Tactical Air Force wings are measured in "wing equivalents," which divide the number of aircraft authorized for units by 72, the average size of a wing. Navy ships include all submarines, surface ships, and most support ships. The Congressional Budget Office's totals for spending on operation and maintenance (O&M) include a variety of adjustments in total obligational authority to reflect changes in financing conventions over the years (see Appendix A).

a. Active-duty forces only.

b. Change is measured from the 1982 level. The level for 1981 is not available.

Increases were much smaller, however, in several indicators of the "workload" demand for O&M resources: force structure (the number of military units), training levels (tank miles for the Army, steaming hours for the Navy, and flying hours for the Air Force), the number of active-duty military personnel, and the extent of real estate managed by the services (see Tables 1 and 2 on pages 6 and 7).

A disparity between O&M spending and most of those indicators also appears in the reductions in O&M expenditures following the large military drawdown that began in 1990. Spending for operation and maintenance declined by 14 percent, to about $92 billion in 1996. By contrast, reductions in the force structure and training levels ranged from 35 percent to almost 50 percent, and the number of active-duty military personnel fell by 30 percent.

Despite the comparatively modest decrease in O&M spending, the Congress has remained sympathetic to the Department of Defense's argument that overall levels of O&M spending should be maintained to make sure that readiness is fully protected. In 1996, total O&M spending remained about 7 percent higher than it was in 1981, despite the large drawdown in forces. Over the past 15 years, then, O&M spending first grew more than most indicators of workload, then

Box 2.
Comparing Operation and Maintenance Over Time

An element of judgment is always involved in selecting particular years for comparisons. The Congressional Budget Office (CBO) has compared operation and maintenance (O&M) spending levels between 1981 and 1989 to determine the amount of growth that occurred during the 1980s and before the Department of Defense began to downsize.

CBO selected 1981 rather than earlier years because by then O&M had already been increased sharply in response to concerns raised by the services and others in the late 1970s that military forces had become "hollow"—that is, they were not adequately supported, thus jeopardizing readiness. Between 1979 and 1981, O&M spending was increased by $12 billion. Most of those initial increases were dedicated to increasing some types of field training, improving the supply of spare parts, and repairing facilities at military bases.[1]

To compare changes in O&M spending with those in force levels, CBO examined workload indicators between 1981 and 1989 and between 1989—before the drawdown—and 1996. The drawdown of military forces was largely complete by 1996.

All O&M funding levels are expressed in terms of total obligational authority (TOA). TOA is the most precise measure of actual resources because it includes later transfers into O&M from other sources. In order to improve the accuracy of comparisons of O&M spending over time, CBO also adjusted TOA levels over the past 15 years to reflect changes in financing conventions (see Appendix A). Those changes have made analyses of trends in O&M spending problematic.[2]

As much as possible, CBO excluded spending for wars and contingencies so as to compare support provided for the peacetime force over time. However, that spending can only be segregated at the level of appropriation accounts. For 1996, spending reflects the original budget request and therefore does not include additional funding provided for Bosnia or other contingencies. Spending for contingencies in previous years, however, is included unless specifically noted. Total O&M spending levels for future years reflect the 1998 President's budget request unless otherwise indicated.

Finally, CBO analyzed changes in the composition of spending using a set of budget categories developed specifically for operation and maintenance known by the shorthand "O-1." The O-1 categories, adopted in 1994, divide O&M spending by mission or function.

1. Office of the Secretary of Defense, *Operation and Maintenance Overview, Justification of Estimates for Fiscal Year 1982*, vol. 1, as amended (April 1981).

2. The Department of Defense (DoD) has commissioned work to "normalize," or adjust, O&M spending over time to reflect changes in accounting conventions. See Office of the Director (Acquisition Program Integration), DoD, *Understanding Increased Operation and Maintenance (O&M) Funding Requirements: A Comparison of FY 1975 and FY 1995 O&M Programs*, IDA Document D-1616 (Alexandria, Va.: Institute for Defense Analysis, December 1994).

declined less than those signs, making military forces relatively more expensive to support now than in the past.

Changes in the Composition of Operation and Maintenance Spending

This study examines historical trends in the composition of O&M funding in order to illuminate where and how O&M spending levels might be reduced to meet projected lower levels of funding. CBO constructed a historical database to study the diverse functions and levels of O&M support. When coupled with workload indicators, the database helps to highlight trends in areas of O&M spending. CBO also looked at how indicators of readiness have varied over time as funding levels have changed, in order to assess how readiness might be affected in the future.

The new historical database relies on budget categories, known by the shorthand O-1 (see Table 3 and Appendix B). DoD developed the categories specifically for operation and maintenance spending in 1994 in response to Congressional criticism that spending levels were not clearly related to changes in force structure.[7] The new categories allocate O&M spending according to the following major missions or functions:

- Operating forces,
- Mobilization,
- Training and recruiting,
- Administrative and servicewide support, and
- Base support.

Unlike DoD, which distributed base support among missions, CBO treated it as a separate category. CBO took that approach in order to give greater visibility to a significant part of DoD's infrastructure and because it was not possible to distribute spending on past base support according to the new budget categories.

Table 3.
Mission- and Infrastructure-Related Spending as a Share of Total Spending for Operation and Maintenance (In percent)

Budget Activity	1981	1989	1996
Mission-Related Spending			
Operating forces	43	43	36
Mobilization	4	3	5
Subtotal	46	46	41
Infrastructure-Related Spending			
Training and recruiting	5	5	5
Administrative and servicewide support	26	27	33
Base support	24	22	21
Subtotal	54	54	59
Total	100	100	100
Memorandum:			
Operation and Maintenance Spending (Billions of 1996 dollars)	85.8	106.9	91.9

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

NOTES: Includes all spending for operation and maintenance (O&M) by active-duty and reserve forces as well as funding managed on a defensewide basis. Spending reflects total obligational authority, which includes any additional funding transferred into or out of O&M appropriations during budget execution.

Each budget activity is broadly defined to include all of the elements necessary to support a specific mission. For example, the category for operating forces includes not only the cost of training units in the field but also the cost of weather systems and management headquarters supporting those units (see Appendix B for a detailed listing of O-1 categories and subcategories).

7. U.S. Senate, *Department of Defense Appropriations Bill, 1993*, report to accompany H.R. 5504, Report 102-408 (September 17, 1992), p. 17.

The new budget categories can be used as a way of distinguishing shifts in mission-related O&M compared with spending on infrastructure. The first two budget categories—operating forces and mobilization—cover DoD's mission-related O&M spending. Mission-related O&M can also be thought of as spending to train and support forces that may ultimately be deployed in a conflict. The latter three categories—training and recruiting, administrative and servicewide support, and base support—can be viewed as spending on

Table 4.
Changes in Spending for Operation and Maintenance by O-1 Budget Category

	Spending (Billions of 1996 dollars)			Percentage Change Between		
	1981	1989	1996	1981 and 1989	1989 and 1996	1981 and 1996
Operating Forces						
Active Forces	29.0	33.9	23.5	*	*	*
Reserve Forces	4.4	6.0	5.8	*	*	*
Defensewide	3.2	5.6	4.1	*	*	*
Subtotal	36.6	45.5	33.4	24	-27	-9
Mobilization						
Active Forces	2.5	2.9	3.6	*	*	*
Reserve Forces	0.5	0.6	0.7	*	*	*
Defensewide	0	0	0	*	*	*
Subtotal	3.0	3.5	4.3	17	23	43
Training and Recruiting						
Active Forces	3.8	5.1	3.8	*	*	*
Reserve Forces	0.2	0.2	0.2	*	*	*
Defensewide	0.1	0.2	0.4	*	*	*
Subtotal	4.1	5.5	4.4	34	-20	7
Administrative and Servicewide Support						
Active Forces	14.5	16.5	13.3	*	*	*
Reserve Forces	0.1	0.3	0.4	*	*	*
Defensewide	7.3	12.5	16.5	*	*	*
Subtotal	21.9	29.2	30.2	33	3	38
Base Support						
Active Forces	18.4	20.3	14.2	*	*	*
Reserve Forces	0.8	1.2	1.3	*	*	*
Defensewide	1.0	1.7	4.1	*	*	*
Subtotal	20.2	23.2	19.6	15	-15	-3
All Categories						
Total	85.8	106.9	91.9	25	-14	7

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

NOTES: O-1 is Department of Defense shorthand for its budget categories for operation and maintenance.

* = not applicable.

infrastructure that provides support in the United States for the forces that would be deployed.[8]

Since 1981, the share of O&M spending devoted to support of mission forces has fallen by 5 percentage points—from 46 percent to 41 percent of all O&M funding—primarily reflecting the drop in force structure accompanying the drawdown. The growth in the share of infrastructure reflects the modest decline in some indirect support compared with sharper decreases in the funding of operating forces and increases in defensewide support (see Table 4). For example, spending on base support dropped at half the rate of operating spending. And spending on administrative and servicewide activities has grown by 2 percent since 1989.

Using the major budget categories, CBO analyzed how each of the services and defense agencies allocated its share of the additional O&M funding of the 1980s. CBO also examined how much and in which categories spending was reduced in response to the large decreases in the force structure of the 1990s. In addition, CBO looked at whether those changes in spending appear to have affected readiness.

8. Although there is no common definition of infrastructure, the Department of Defense used a similar definition in its Bottom-Up Review of the defense budget in 1993. See Les Aspin, Secretary of Defense, *Report of the Bottom-Up Review* (October 1993), p. 97.

Chapter Two

Why Defensewide Spending on Operation and Maintenance Has Grown

The composition of spending on operation and maintenance has changed. More is now spent on defensewide support that cuts across service boundaries and is only indirectly related to force structure or readiness. Fifteen defense agencies or the Office of the Secretary of Defense (OSD) oversee that defensewide spending. In 1996, the active and reserve forces managed 73 percent of the $92 billion in total spending on operation and maintenance, and defense agencies or OSD managed or oversaw 27 percent (see Table 5).[1] Fifteen years ago, defensewide spending made up only 14 percent of the total.

The increase in the share of defensewide O&M spending is a result of both the decline in spending by the services since 1989 and the increase in defensewide O&M spending, growth that has not abated with the drawdown. Defensewide support accounted for 40 percent of the $21 billion growth in O&M spending between 1981 and 1989, three times its share of total O&M spending in 1981. By contrast, spending by the services made up 60 percent of the growth during that period, less than its share in 1981.

Most of defensewide spending on O&M provides a variety of infrastructure support, ranging from peacetime medical benefits to intelligence, communications, and environmental programs (see Table 6). The only direct spending on training and supporting deploying forces is the share of DoD's medical program designated for the wartime mission, special operations forces, and training and management provided by the Joint Chiefs of Staff.[2]

Defensewide O&M spending is in some ways the most difficult to understand because of the multitude of purposes it serves. In other ways, defensewide spending on O&M is more clearly related to policy goals and initiatives than is overall spending by the services. Growth in environmental spending, for example, is largely the result of laws passed in the 1980s that required defense installations to comply with environmental regulations. As for medical spending—the largest single component of defensewide O&M spending—levels vary with the types of benefits available to beneficiaries as well as management changes designed to control costs.

A variety of factors help to explain the rapid growth of defensewide O&M spending. The following elements play important roles in the substantial growth of defensewide O&M in the 1980s and the continued high levels of spending in the 1990s:

- External pressures on certain defense costs,

1. The $92 billion total for operation and maintenance spending reflects the 1996 budget before adjustments by Congressional action and supplemental appropriations for contingencies.

2. Basically, the Congressional Budget Office considers the wartime medical mission to be the provision of health benefits to active-duty forces in the United States and all military beneficiaries overseas; the peacetime mission includes health benefits for all other eligible beneficiaries—retirees, dependents in the United States, and survivors. See Congressional Budget Office, *Restructuring Military Medical Care*, CBO Paper (July 1995), Appendix B, for a more detailed description.

- New Department of Defense responsibilities,
- Expansion of continuing defensewide support tasks, and
- The failure of some types of support to adjust to lower force levels.

Defensewide O&M spending grew from almost $12 billion in 1981 to $20 billion by 1989—an increase of 70 percent—far faster than that of O&M within each of the services. Defensewide spending has continued to grow in the 1990s, reaching $25 billion in 1996. Unless DoD is successful in reversing the growth of that spending through changes in policy or improved management, the Department of Defense will find it difficult to meet the lower O&M spending levels that may be required in the future.

About 60 percent of the increase in defensewide O&M spending since 1981 can be attributed to DoD's new responsibilities and to the external pressures on DoD's medical program, in which costs have risen sharply (see Table 7). The remaining growth reflects increased emphasis on such continuing missions as special operations and intelligence, as well as on growth in other overhead functions (such as headquarters) that show little adjustment to the drawdown. In most cases, however, some mixture of factors is at work.

Table 5.
Spending for Operation and Maintenance by Component

	Spending (Billions of 1996 dollars)			Share of Total Spending (Percent)		
	1981	1989	1996	1981	1989	1996
Active Forces						
Army	19.9	24.8	17.7	23	23	19
Navy	26.2	27.9	20.8	31	26	23
Marine Corps	1.8	2.3	2.1	2	2	2
Air Force	20.2	23.7	17.9	24	22	19
Subtotal	68.1	78.7	58.5	80	74	64
Reserve Forces						
Army Reserve	0.9	1.0	1.0	1	1	1
Army National Guard	1.5	2.3	2.2	2	2	2
Navy Reserve	0.8	1.3	0.8	1	1	1
Marine Corps Reserve	a	0.1	0.1	b	b	b
Air Force Reserve	0.7	1.1	1.5	1	1	2
Air Force National Guard	2.1	2.5	2.7	2	2	3
Subtotal	6.0	8.2	8.3	7	8	9
Defensewide						
Defense Medical	7.0	9.9	10.2	8	9	11
Other Defensewide	4.7	10.1	15.0	5	10	16
Subtotal	11.7	20.0	25.1	14	19	27
All Components						
Total	85.8	106.9	91.9	100	100	100

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

a. Less than $100 million.

b. Less than 1 percent.

Table 6.
Defensewide Spending for Operation and Maintenance by O-1 Budget Category

Budget Activity	Spending (Billions of 1996 dollars) 1981	1989	1996	Share of Total Spending (Percent) 1981	1989	1996
Mission-Related Spending						
Operating Forces						
Military medical mission[a]	3.2	4.5	2.5	27	23	10
Other defensewide[b]	n.a.	1.1	1.6	n.a.	6	6
Mobilization						
Defense Logistics Agency	c	c	c	0	0	0
Subtotal	3.2	5.6	4.1	27	29	16
Infrastructure-Related Spending						
Training and Recruiting						
Medical training	0.1	0.2	0.2	1	1	1
Other defensewide	0	0	0.2	0	0	1
Administrative and Servicewide Support						
Peacetime medical mission[d]	2.7	4.0	6.5	23	20	26
Other defensewide	4.6	8.4	10.0	39	42	40
Base Support						
Medical base support	1.0	1.2	0.9	9	6	4
Environmental security programs[e]	0	0.6	3.2	0	3	13
Subtotal	8.4	14.3	21.0	72	71	84
Total						
Defensewide Spending	11.7	20.0	25.1	100	100	100

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

NOTES: O-1 is Department of Defense shorthand for its budget categories for operation and maintenance.

n.a. = not available.

a. Spending to provide medical benefits to all active-duty personnel in the United States and both active-duty forces and their dependents overseas. For methodology, see Appendix B in Congressional Budget Office, *Restructuring Military Medical Care*, CBO Paper (July 1995).

b. Spending is for training and support of special operations forces, transportation expenses associated with joint exercises, and headquarters costs for the Joint Chiefs of Staff. Spending on special operations forces is not distinguishable from that on service units before 1989, when the control of those forces was centralized in a separate command. Therefore, growth between 1981 and 1989 is not measurable.

c. Less than $50 million.

d. Spending to provide medical benefits to non-active-duty military beneficiaries. See Congressional Budget Office, *Restructuring Military Medical Care*, CBO Paper (July 1995), Appendix B.

e. Includes all spending funded by the operation and maintenance appropriation.

Table 7.
Sources of Growth in Defensewide Spending for Operation and Maintenance

	Spending (Billions of 1996 dollars)			Percentage Change Between		
	1981	1989	1996	1981 and 1989	1989 and 1996	1981 and 1996
External Pressures						
Defense Health Program	7.0	9.9	10.2	35	6	24
New Responsibilities						
Environmental Security Programs[a]	0	0.6	3.2	7	51	24
Drug Interdiction	0	0.5	0.7	6	4	5
Nunn-Lugar Cooperative Threat Reduction Program[b]	0	0	0.4	0	8	3
Federal Energy Management Program[c]	0	0	0.2	0	4	1
On-Site Inspection Agency[d]	0	e	0.1	0	2	1
Subtotal	0	1.2	4.6	13	69	34
Increased Emphasis						
Intelligence and Communications[f]	1.7	3.1	3.4	17	6	13
Special Operations	n.a.	0.7	1.0	8	6	7
Auditing	0.2	0.5	0.5	4	0	2
Joint Chiefs of Staff[g]	e	0.4	0.6	5	4	4
Corporate Information Management	0	0	0.1	0	2	1
Acquisition Training[h]	0	0	0.2	0	4	1
Subtotal	1.9	4.7	5.7	34	20	28
Other Growth						
Defense Mapping Agency	0.5	0.7	0.7	2	0	1
Department of Defense Dependents Education[i]	0.7	1.2	1.3	6	2	4
Defense Logistics Agency	1.1	1.6	1.1	6	-10	0
Headquarters Functions[j]	0.2	0.3	0.8	1	10	4
Other Miscellaneous Support[k]	0.2	0.4	0.7	2	6	4
Subtotal	2.8	4.3	4.6	18	6	13
Total						
Defensewide Spending	11.7	20.0	25.1	100	100	100

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

NOTE: n.a. = not available.

a. Includes defense environmental restoration account, environmental compliance, conservation, and pollution prevention.

b. Also referred to as the Former Soviet Union Threat Reduction program.

c. Promotes energy efficiency in federal buildings.

d. Funds inspections of specific facilities overseas to ensure compliance with arms control agreements.

e. Less than $100 million.

f. Funding for the National Security Agency, Defense Information Services Agency, the Defense Intelligence Agency, and the Central Imagery Office.

g. Funds headquarters staff as well as transportation costs of joint exercises.

h. Funding for the newly established Defense Acquisition University and the Defense Management University.

i. Funds elementary and secondary schools for dependents of military personnel stationed overseas and in certain military installations within the United States.

j. Funding for the Office of the Secretary of Defense (OSD), the Washington Headquarters Services (WHS), Department of Defense support activities, and the Civilian Personnel Management Service.

k. Funding for small agencies and miscellaneous support under the aegis of WHS; excludes WHS and OSD headquarters.

External Pressures on Defensewide O&M Spending: DoD's Medical Program

In the health care arena, external factors have helped to push DoD's costs upward, although the patterns of practice in the military health care system may also explain its continued high level of spending. Even after adjusting for inflation in the medical sector, total O&M medical spending has grown by about 50 percent—from $7 billion to about $10 billion over the past 15 years—a rate considerably higher than the rate of growth of the entire O&M budget.[3] Why O&M medical spending grew so rapidly is not quite clear. But it is safe to say that many of the same forces that caused national health expenditures to rise rapidly during the period were probably responsible for higher military health care costs. Those factors include the aging of the beneficiary population, an increase in the volume of health care services and procedures per visit or hospital stay, and expanded use of new and high-cost procedures.

O&M spending per beneficiary rose from about $800 in 1981 to $1,200 in 1996. The current level of spending per person also reflects the increasing expense to operate the military's system of hospitals and clinics over the past 15 years. The likely culprits: lower occupancy rates in hospitals and a failure to reduce budgets in response to declines in workload.

At the same time, DoD's current system of entitlements creates few if any incentives for beneficiaries to limit their use of medical services. As in the civilian sector, DoD has recently adopted reforms of its management practices to curb the rise in medical costs, including budgeting on the basis of "capitation rates"—that is, fixed annual payments based on projected per capita costs and workload—and by relying on health maintenance or preferred-provider delivery systems for its insurance program. The success of those new management practices in checking future growth of costs has yet to be demonstrated. Unlike most O&M spending, the cost of the Department of Defense's medical program is very sensitive to economywide trends in medical spending as well as to changes in the demographic composition of its beneficiaries.

DoD's Medical Program

DoD's medical spending cannot be expected to mirror directly changes in force levels. After all, the military health care system serves not only the 1.6 million men and women on active duty but also 6.6 million "nonactive" beneficiaries, including dependents of active-duty personnel, retirees and their dependents, and survivors of deceased personnel.[4]

Those beneficiaries may receive their care either directly—through military medical centers, hospitals, and clinics—or through the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), an insurance program that covers most of the cost of care from civilian providers.[5] (CHAMPUS is now part of the Tricare system, which allows beneficiaries to choose among several types of health care plan.) The direct care system is the larger of the two, composed of more than 120 hospitals and 500 clinics in the United States and overseas. Beneficiaries receive care at those facilities at no charge. That system gives first priority to active-duty beneficiaries, who must rely on the direct care system. Although other eligible personnel may turn first to the direct care system, they receive care only if facilities and personnel are available. The order of priority for different groups of beneficiaries in receiving care is set by statute. Active-duty personnel receive first priority, then come family members, and finally retirees and their dependents and survivors.

When direct care is not available because military facilities are located too far away or waiting times are too long, some beneficiaries use CHAMPUS. As under a civilian health insurance policy, CHAMPUS reimburses providers for most of the cost of the care. But

3. The Congressional Budget Office deflated the Department of Defense's medical costs based on the mix of military pay and civilian pay and medical purchases. For O&M funding, for example, CBO used DoD's deflator for civilian pay and the medical portion of the consumer price index.

4. The number of active-duty personnel also includes all medically eligible personnel in the full-time Guard and Reserve, Coast Guard, Public Health Service, and National Oceanic and Atmospheric Administration.

5. An exception is beneficiaries who are 65 years old or older and eligible for Medicare, who may not receive care under CHAMPUS.

CHAMPUS is only intended to supplement the care given out at military treatment facilities.

In 1996, DoD spent about $15.5 billion to support both components of the military health care system. Although that system is funded through several appropriations, O&M spending accounts for almost two-thirds of the total, paying for the salaries of civilian personnel, purchases for the direct care system, and contracts with civilian providers under CHAMPUS. The other major funding source is military personnel appropriations, which cover the pay and allowances of military doctors and other active-duty personnel in the direct care system.[6] O&M's share of DoD's total health care budget has not changed over the past 15 years.

Because it grew so rapidly in the 1980s—from $7 billion in 1981 to $10.2 billion in 1996—O&M medical spending now consumes 11 percent rather than 8 percent of the overall O&M budget. Although most of that growth occurred between 1981 and 1989, O&M medical spending peaked in 1991 at around $11 billion, shrinking to $10 billion by 1996.

Why Spending on DoD's Medical Care System Has Changed

Population alone does not account for changes in O&M medical spending. Between 1981 and 1989, when the O&M budget for medical care grew by about 40 percent, the population of eligible beneficiaries grew by only 9 percent. Conversely, the slowdown in the growth of O&M medical spending between 1989 and 1996, when costs rose by only 3 percent, is not proportional to the 9 percent drop in the overall population of beneficiaries that the military drawdown precipitated.

The aging of the beneficiary population is more important then its size in explaining changes in O&M medical spending, because older people make greater use of health care resources than do younger people. DoD has faced the same pressures on cost from an aging population as has the civilian health care system. Between 1981 and 1996, the share of beneficiaries 65 years old or older grew from 5 percent to 15 percent of the eligible population. Some portion of the increase in O&M medical spending clearly reflects the impact of serving an older—and more expensive—group of beneficiaries.

Increases in the number of health care visits per person is another factor that might be expected to contribute to higher health care costs. Contrary to that expectation, the frequency and length of hospital admissions per capita fell for both the direct care system and CHAMPUS between 1981 and 1993. Hospital admission rates fell by about 20 percent under the direct care system and about 6 percent under CHAMPUS; the length of hospital stays per admission declined under both the direct care system and CHAMPUS. The trend in less costly outpatient visits is not as clear. The number of outpatient visits per person declined in the direct care system by about 10 percent, but that rate rose dramatically—by more than 200 percent—under CHAMPUS. In part, the rise reflects a shift in the amount of care provided by CHAMPUS as the direct care system has shrunk under the drawdown.

Demographic changes and increases in the number of outpatient visits do not appear to explain adequately the 50 percent increase in O&M medical spending per military beneficiary over the years. As in civilian health care, that growth may stem from an increased reliance on expensive testing procedures for diagnosis and treatment and additional services or procedures per outpatient visit or inpatient stay. The increasing sophistication of medical technology has affected costs for the military as well as the civilian health care system. For example, DoD provides coverage for expensive liver and heart transplants. It is difficult—if not impossible—to measure on the basis of available data the specific contributions to rising costs from changes in population, its demographics, health care use, and health care practices.

Another factor, however, is the increasing cost of operating the military's direct care system. Between 1981 and 1993, total costs rose by almost 50 percent, even though DoD operated 33 percent fewer hospital beds at military treatment facilities and handled 17 percent fewer admissions and 7 percent fewer outpatient visits. Per capita costs under that system grew by 43 percent, from $510 to $730. If those trends continue, the direct care system could become increasingly ex-

6. Other, smaller sources are the military construction appropriations that fund renovations and buildings and procurement appropriations that fund purchases of capital equipment for new facilities and replacement of equipment in current facilities.

pensive to operate unless DoD significantly changes its medical management practices.

Another factor contributing to cost pressures on DoD's medical budget is relatively high utilization rates by DoD beneficiaries, compared with those in the general civilian population. For example, for each 1,000 people under the age of 65, military beneficiaries consumed 675 days of hospital care, whereas civilians consumed only 530 days. Similarly, military beneficiaries had 7.3 outpatient visits per person compared with 4.5 for civilians. Because military beneficiaries receive direct care free and are charged only nominal amounts under CHAMPUS, they have little incentive to restrict their use of health care services. Similarly, providers of health care services to the military had little incentive until recently to limit those services, because funding was simply adjusted each year on the basis of previous levels. Because capitation rates reflect historical experience, current rates still assume the high use typical of military beneficiaries.

Controlling Future Medical Costs

Concerned about rising costs, DoD has tried a variety of reforms to restrain health care spending. The most recent is Tricare, under which beneficiaries can select a plan modeled on civilian health maintenance organizations. Although the Congress required that Tricare not increase current costs to the government, CBO estimates that when it is fully in place, Tricare will increase annual costs substantially.[7] If DoD benefits from the current moderation in civilian health costs, the flaws in *Tricare* may be less visible. Without significant changes in the definition of DoD's medical mission or major organizational changes in its delivery of health care, the Department of Defense's medical costs are unlikely to fall significantly in the future.

7. For a complete discussion of this latest reform effort, see Congressional Budget Office, *Restructuring Military Medical Care*, pp. 21-33.

Pressure on O&M Spending from New Defense Responsibilities

The addition of new responsibilities for DoD helps to explain about one-third of the growth in defensewide O&M spending since 1981 and almost two-thirds of the continued growth in defensewide O&M spending since the drawdown. Frequently characterized as "nontraditional" defense spending, those new responsibilities are ancillary to DoD's core mission—namely, to prepare for possible wars.

Since 1981, DoD has taken on several new tasks: environmental programs, drug interdiction, and the Nunn-Lugar Cooperative Threat Reduction program of aid to the former Soviet Union to assist in defense conversion as well as in destroying nuclear and other weapons.[8] O&M funding for environmental programs, the largest of DoD's new responsibilities, grew to more than $3 billion in 1996—more than 15 times its modest beginning in 1984. DoD now spends about $700 million supporting drug interdiction. Aid to the states of the former Soviet Union amounted to $400 million in 1996 and 1997 and may continue at that level for the next several years. Together, those new missions have added almost $5 billion to O&M spending since 1981 (see Table 7).

This additional spending stems largely from statutory or policy changes. Although environmental programs are a new responsibility for DoD, much of the cost represents the price of repairing past damage and bringing DoD facilities and activities into compliance with national environmental standards. Similarly, responsibility for drug interdiction typically rests with federal, state, and local law enforcement agencies, but DoD has been given a role in supporting other federal agencies in this area.

8. Although there is no standard definition of "nontraditional" defense spending, environmental, Nunn-Lugar, and drug interdiction are typically included. See Steve Daggett and Keith Berner, "Items in the Department of Defense Budget That May Not Be Directly Related to Traditional Budget Responsibilities" (Congressional Research Service Memorandum, March 21, 1994).

DoD's Growing Environmental Responsibilities

Of all the new missions of recent years, the Department of Defense's environmental responsibilities have added the greatest new cost to defensewide O&M spending and the one most likely to persist for many years. DoD's Environmental Security Program funds cleanup programs, compliance procedures, pollution prevention, and conservation measures.

Those environmental responsibilities have grown dramatically in the 1980s and 1990s. Increased spending levels for environmental programs parallel the growth in the number of contaminated sites identified on DoD installations, the rise in environmental standards, and progression to the later stages of the cleanup effort itself. The Department of Defense's cleanup program, for example, has proved to be considerably more extensive than expected. DoD has uncovered thousands of previously unidentified sites of contamination on defense facilities, many of which have also proved to be more complex than originally thought and have required extensive study and analysis. In addition, the states have required increasingly stringent cleanup standards that demand expensive remediation technology.

Moreover, legislation enacted in the 1980s required the Department of Defense to comply with environmental laws that apply to nongovernmental entities, thus contributing to rising costs for environmental compliance efforts at defense bases. Finally, funding levels are higher because DoD is moving from the research and evaluation stage of cleanup to the actual effort. DoD has completed the study stage on about half of the 21,425 sites initially identified as being potentially contaminated.[9] Despite increased spending levels in recent years, DoD still faces an enormous cleanup task that could cost over $40 billion more to complete.

Spending on rectifying DoD's environmental problems has increased from slightly more than $200 million in 1984 to almost $5 billion in 1996 (see Figure 4). About two-thirds of that amount—more than $3 billion—was funded with O&M appropriations.[10] In 1996, about half of O&M spending on environmental programs—$1.6 billion—was allocated for the defense environmental restoration account (DERA) for cleaning up operational bases. Another 40 percent—about $1.4 billion—was spent to ensure that DoD is in compliance with handling and storage laws and regulations. The remaining portion of O&M environmental funding paid for environmental conservation and pollution prevention programs.

Operation and maintenance spending for cleaning up active bases has proved very expensive, costing a total of $13.3 billion since the Congress authorized DERA in 1984. Cleanup funding increased from about $200 million to more than $600 million between 1984 and 1989 and tripled again in 1994, when it reached $2.1 billion. Annual spending for DERA may have peaked, however, because funding in 1995 slipped to $1.8 billion and dipped further in 1996 to $1.6 billion. Recent DoD budget plans project continued reductions in spending for DERA through 2001.

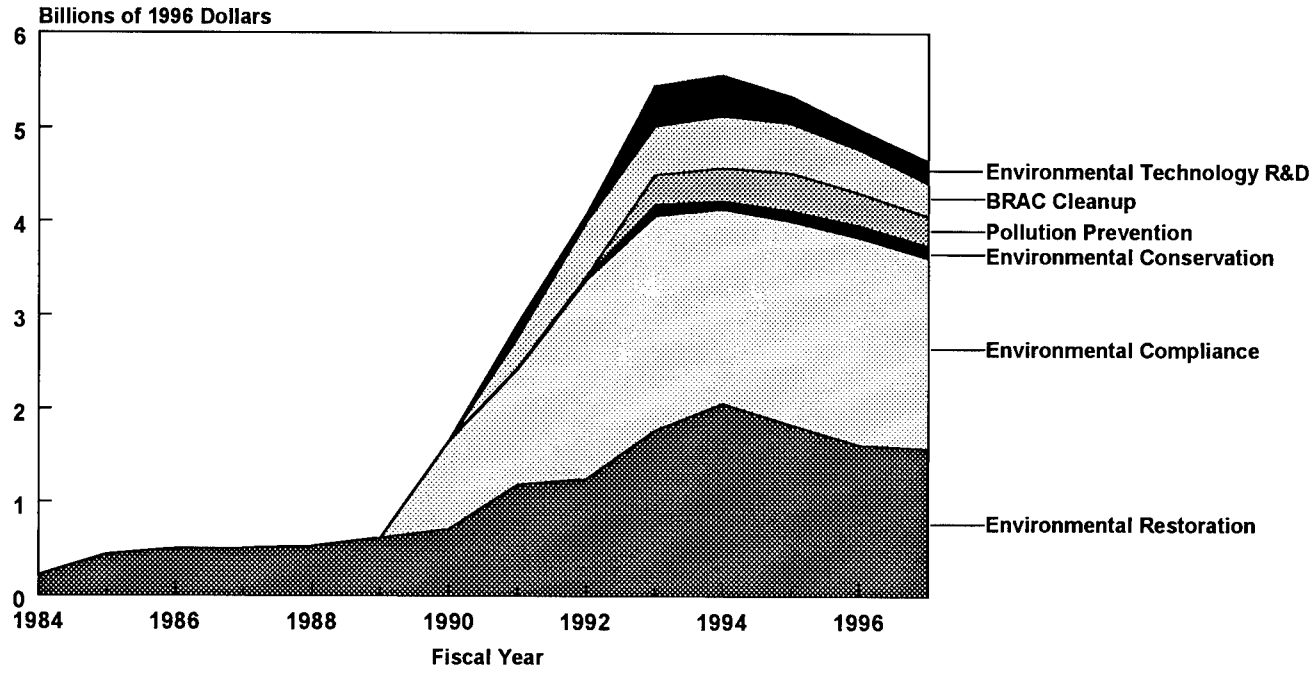
Whether DoD can reduce spending levels for DERA in the future will depend on factors only partly within DoD's control. The total cost of cleanup may grow as the extent of contamination and the cost of remediation is determined. The schedule for cleanup, however, depends on what DoD negotiates with the relevant authorities. For the more heavily polluted sites—those on the National Priorities List—DoD must negotiate an agreement with the Environmental Protection Agency and state and local authorities. Once agreed upon, those "Records of Decision" have the effect of law, and DoD must comply with the provisions they contain.

The Congress has reduced funding for environmental restoration below the level requested by the Department of Defense in recent years, resulting in the need to renegotiate cleanup agreements. DoD has greater flexibility to adjust funding for cleaning up sites that are less contaminated, because a cleanup plan negotiated

9. Statement of Cindy Williams, Assistant Director, National Security Division, Congressional Budget Office, before the House Subcommittee on Military Procurement and the Subcommittee on Military Readiness, Committee on National Security, March 21, 1996, p. 5.

10. Smaller amounts were funded in 1996 by other appropriations, including about $360 million in research and development, $210 million in procurement, $230 million in military construction, and $460 million in the base realignment and closure accounts. Funding to clean up military bases that are scheduled to be closed is not included in operation and maintenance spending.

Figure 4.
Total Defense Spending on Environmental Security Programs, 1984-1997



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

NOTES: About two-thirds of all funding for environmental security programs is provided in the operation and maintenance appropriation.

R&D = research and development; BRAC = Base Realignment and Closure Commission.

between agencies is not required. Even in such cases, however, state and local authorities could take exception to DoD's plan and insist that stricter standards and schedules be met.

In recent years, the Department of Defense has also spent about $1.3 billion a year to ensure that it is in compliance with handling and storage laws and regulations. CBO estimates that the O&M portion of spending for compliance has increased almost threefold from its 1990 level of $490 million.[11] That funding is unlikely to decline substantially in the near future, although base closures during the next several years will slightly reduce DoD's responsibilities in that area. Spending for compliance ensures that DoD will be able to meet the same standards that govern private industry and all federal facilities. If DoD does not meet compliance standards, it is liable for fines and penalties. If the Congress chooses to adopt less stringent standards for compliance by private and federal facilities, however, future spending levels could be reduced. The downside may be a greater risk to the environment, health, and safety of the population.

In the long term, DoD investment in pollution prevention programs could reduce the cost of future compliance programs. In recent years, the Department of Defense has begun to spend more money on both pollution prevention and conservation activities, but the programs are fairly small. O&M spending for conservation increased from about $9 million in 1991 to $118 million in 1996 to meet the requirements established by such public laws as the National Historic Preservation Act and the Endangered Species Act.[12] Reducing spending for conservation could prevent DoD from

11. Although the military services spent money for compliance from the operation and maintenance account before 1990, the funding was not identified separately, and DoD was not able to provide that budget information for this study.

12. The estimate assumes that DoD allocated the same share of its total funding for conservation to operation and maintenance in the past as it did in 1996, when that share was 80 percent.

meeting its legal requirements. The spending level would fall only if the Congress chose to adopt less stringent conservation measures governing such tasks as the protection of threatened and endangered species; wetlands areas; cultural, historical, and archeological sites; and natural resources.

Other New Responsibilities: Drug Interdiction and Aid to the Former Soviet Union

The two other major, nontraditional DoD responsibilities added in recent years are drug interdiction—primarily a responsibility for domestic law enforcement—and the Nunn-Lugar Cooperative Threat Reduction program designed to help the former Soviet Union in its transition from the Cold War. Allocating responsibility to the Department of Defense for those programs represents a policy decision to expand DoD's role and exploit the department's expertise. Funding levels are unlikely to change unless the Congress or the Administration decides that DoD's participation is not cost-effective or should be circumscribed.

DoD's Role in Drug Interdiction. Beginning in 1989, the Congress assigned DoD the responsibility of using military forces in peacetime to carry out counterdrug surveillance; integrate those command, control, communication, and intelligence assets dedicated to drug interdiction; and provide support to law enforcement agencies by sharing and expanding intelligence collection as well as helping to train local law enforcement officials.[13] Between 1989 and 1996, funding for drug interdiction and surveillance activities grew from $550 million to a peak of $1.4 billion in 1992, then fell to about $700 million in the 1996 budget request.

Part of DoD's drug interdiction activities adds little cost to the services. Much of DoD's surveillance effort, for example, serves dual purposes—providing information to domestic law enforcement agencies and training military personnel for wartime surveillance missions. Nor does sharing intelligence with domestic agencies burden DoD, unless additional intelligence specifically related to drug interdiction is collected. In other areas, however, such as aiding or training domestic or a host nation's law enforcement officials, DoD is taking on an additional task that does not contribute to its wartime capabilities.

Debate about the appropriate extent of DoD's role, as well as the effectiveness of the Department of Defense's contribution to antidrug activities, has been heated, and DoD's spending has dropped to half of its peak level. Part of the cutback in funding was in response to questions about the effectiveness of DoD's surveillance efforts as well as the concerns of some policy-makers about the appropriateness of military personnel providing support to local law enforcement agencies.[14] Future funding levels will depend on resolving those issues.

Nunn-Lugar Cooperative Threat Reduction Program. Similar questions have been raised about the effectiveness and appropriateness of DoD's role in helping the former Soviet Union dismantle nuclear weapons and ease its transition to a civilian economy. The Nunn-Lugar Cooperative Threat Reduction program was established by the Congress in 1991, and by 1996 almost $2 billion had been authorized, although far less had been spent. Under the program, DoD helps the former Soviet Union destroy or dismantle nuclear and other weapons, guard its remaining weapons stockpile, provide alternate employment to scientists with nuclear expertise, and convert military facilities to civilian use.[15]

Some policymakers have argued that such a program is an essential new military mission—a way, in effect, of enhancing U.S. security by ensuring the dismantling of Russia's nuclear weapons and preventing their spread to other nations or to terrorists. Other policymakers question the appropriateness of U.S. aid in the defense conversion of the former Soviet Union. Still others have questioned the program's effectiveness, particularly because of delays in spending appropriated funds and the funding of projects of questionable value, such as subsidizing housing for Russian

13. See sections 1101-1104 of the National Defense Authorization Act, Fiscal Year 1989, 10 U.S.C. 113, 371-380, 102 Stat. 2042-2046.

14. "Military Role in Drug War Debated," *Washington Post*, August 30, 1996, p. A6. See also "GAO Pessimistic About U.S.-Mexican Drug Control Efforts," *Inside the Pentagon* (July 4, 1996), p. 20.

15. Amy F. Woolf and Theodor W. Galdi, *Nuclear Weapons in the Former Soviet Union: Location, Command and Control*, CRS Issue Brief 91144 (Congressional Research Service, March 23, 1995), p. CRS-13ff.

military officers.[16] In 1996, for example, the House Committee on National Security proposed to cut the program almost in half in light of those concerns.[17] And in 1996 and 1997, the Congress prohibited the use of Nunn-Lugar funds to provide housing for military officers. In response to such criticisms, the Administration cut the size of the program from about $400 million a year to about $300 million in 1997, and has aimed efforts more directly toward guarding and destroying nuclear and chemical weapons and nuclear material.[18]

Expansion of Ongoing Defensewide Missions

Spending for "traditional" defensewide functions, which ranges from more than $3 billion for intelligence and communications to $100 million for expanding information management, also grew substantially over the 1981-1996 period. Such spending rose from $2 billion in 1981 to almost $6 billion in 1996, accounting for more than one-quarter of the total growth in spending in that period. The largest increases were for support of intelligence and communications and special operations forces, areas on which DoD and the Congress have chosen to place additional emphasis.

Intelligence and Communications

Decisions by the services to improve and expand their intelligence gathering and analysis led to the doubling of spending on the support of intelligence and communications between 1981 and 1996—an increase far greater than the growth of one-third in the defense budget during the 1980s. The services argue that intelligence improves the effectiveness of forces.

Despite the fall of the Soviet Union, which had been the focus of most intelligence collection during the Cold War, O&M spending to gather and analyze intelligence has not decreased. Nor does the funding within O&M to support intelligence appear to be a part of ongoing initiatives to reduce the total number of intelligence personnel by almost one-quarter in the 1990s.[19] Debate about the appropriate level of intelligence spending has focused on the size of the intelligence community, duplication among its agencies, and its overall organization. Although the Congress has considered several proposals to consolidate and restructure the intelligence community, the issue has not been resolved.[20]

Special Operations

In the late 1980s, the Congress required that DoD set up a separate command for special operations forces (rather than having those forces subsumed within each individual service) as a way of giving greater visibility and bureaucratic clout to this wide-ranging mission. The mission, seen as playing a key role in peacetime operations, includes intelligence and unconventional operations, evacuation and combat rescue, training of foreign military forces, and civil affairs tasks. Spending for it totals $1 billion and is likely to remain at least that high because of the frequent deployment of those forces in operations other than war.

Other Growth

Although much of the growth in defensewide spending on support clearly indicates policy decisions to place greater emphasis on particular areas of centralized support in the 1980s, why other defensewide spending re-

16. Amy F. Woolf, *Nunn-Lugar Cooperative Threat Reduction Program: Issues for Congress*, CRS Report for Congress 96-804F (Congressional Research Service, September 30, 1996).

17. See House Committee on National Securitiy, *National Defense Authorization Act for Fiscal Year 1996*, H. Report 104-131 (June 1, 1995), pp. 256-259. See also Woolf, *Nunn-Lugar Cooperative Threat Reduction Program.*

18. Office of the Secretary of Defense, *Operation and Maintenance Overview, FY 1997 Budget Estimates* (March 1996), p. 55; and Office of the Secretary of Defense, *Operation and Maintenance Overview, FY 1996/FY 1997 Biennial Budget Estimates* (February 1995), p. 55.

19. The $3.4 billion in visible O&M funding for intelligence and communications includes only a small portion of total funding for intelligence, which is reported to be some $29 billion. See James Kitfield, "Looking for Trouble," *National Journal* (May 18, 1996), pp. 1094-1098.

20. Congressional Budget Office, *Easing the Burden: Restructuring and Consolidating Defense Support Activities*, CBO Paper (July 1994), pp. 53-66.

mains high is not at all clear. For example, spending on auditing, which expanded in the 1980s to monitor a larger investment budget and in response to procurement scandals, has not decreased despite the rapid fall in the procurement budget. Nor has spending fallen for the Defense Mapping Agency, which supports DoD's strategic and tactical military operations and weapon systems by providing mapping, charting, and geodetic services.

Similarly, spending for the Department of Defense Dependents' Education program, which provides schooling for the dependents of military personnel overseas and on certain installations in the United States, continues to cost $1.3 billion—the same level as in the 1980s—despite the overall drawdown of military personnel and the two-thirds drop in the number of military personnel and their dependents stationed overseas. Similarly, spending for headquarters staff in the Office of the Secretary of Defense and associated support grew by 50 percent in the 1980s and has more than doubled since the drawdown. The justification for those levels remains unclear.

Chapter Three

Readiness and O&M Spending by the Services

Unlike spending levels for defensewide operation and maintenance, which largely represent changes in defining the scope of the Department of Defense's responsibilities, O&M spending by the services is more directly related to DoD's core mission of preparing for war. That spending would be expected to vary with force structure, standards of readiness, and the efficiency with which support is provided.

Changes in force structure alone are not an adequate explanation for changes in O&M spending levels. Force structure—the number of units or weapon system platforms—rose modestly in the 1980s and fell sharply in the 1990s (see Tables 1 and 2 in Chapter 1). O&M spending by the services, however, rose significantly in the 1980s and declined less steeply than force structure in the 1990s. One gauge of the discrepancy between changes in force size and O&M spending levels is trends in spending per active-duty service member. Trends in those average O&M funding levels over the past 15 years indicate that DoD is generally spending more to train and support military personnel for their wartime functions than it has in the past.

Higher spending levels for O&M were originally justified in the early 1980s as a way to correct problems of readiness associated with the "hollow forces" of the late 1970s. In recent years, DoD has again suggested that increases in O&M spending per capita may be associated with high readiness. But several indicators of readiness commonly used by the services have not grown from the levels that were set in the early 1980s.

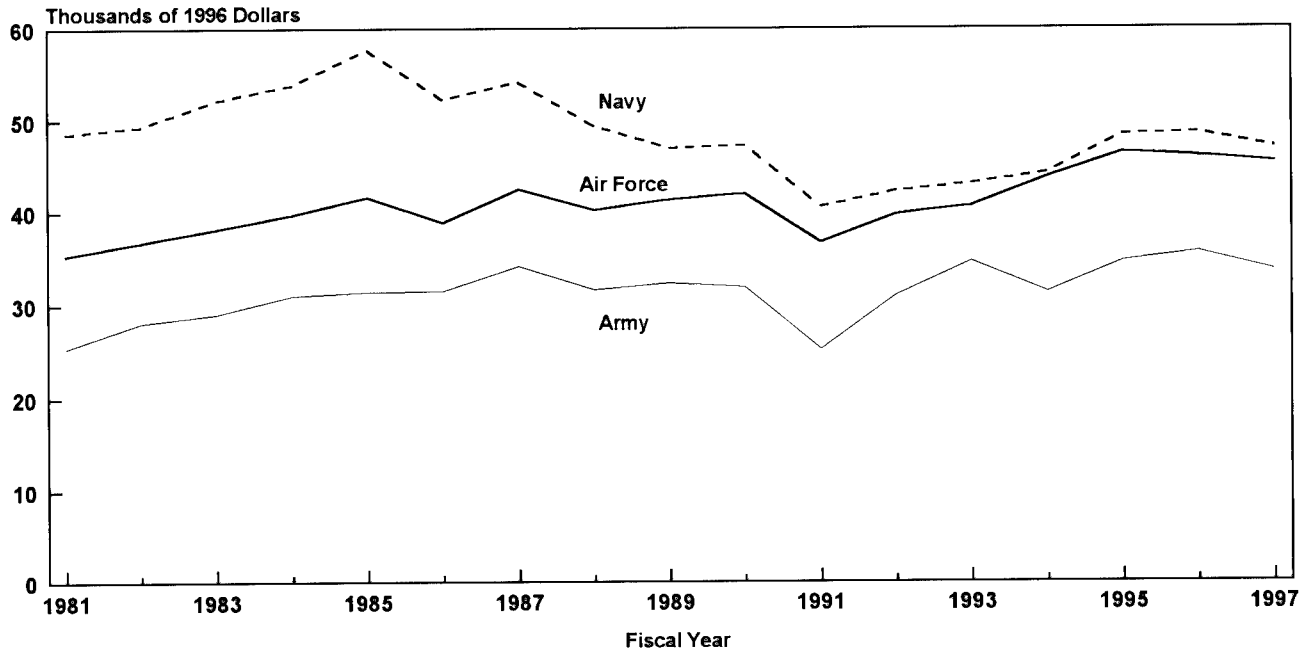
Because measured readiness has changed little since the early 1980s, the basis for DoD's justification of today's high levels of per capita spending is not clear. Rather, based on the Congressional Budget Office's analysis of spending growth, higher O&M spending levels in the 1980s most likely reflect greater spending on infrastructure and indirect support of combat operations. Continued increases in average spending levels in the 1990s appear to be primarily the result of the difficulties that the services have had in adjusting their support structure to lower force levels.

Changes in Force Structure and O&M Spending

Between 1981 and 1989, spending to support active-duty forces grew from $68 billion to $79 billion, an increase of about 15 percent. Force structure, training levels, and the number of active-duty personnel—all indicators of workload—rose by much less. In fact, growth in O&M spending was twice as great as the increase in training and seven times as great as the change in personnel levels, suggesting little relationship between spending and indicators of workload.

Nor did spending trends since the drawdown follow those indicators. In the 1990s, force structure, training levels, and personnel levels all fell far more than did

Figure 5.
Spending for Operation and Maintenance per Capita by Service, 1981-1997



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

NOTES: Per capita spending is computed by dividing spending for operation and maintenance (O&M) under the management of active-duty personnel by the number of active-duty personnel at the end of each fiscal year.

O&M spending for the reserves, defensewide support, and Desert Shield/Desert Storm and operations other than war is excluded.

O&M spending. Both force structure and training levels dropped by between 35 percent and 50 percent, whereas active-duty personnel levels fell by 30 percent. At the same time, O&M spending by the services declined by 26 percent—less than the reductions in force structure, training, and active-duty personnel levels.

The most straightforward gauge of the discrepancy between changes in workload indicators and O&M spending is trends in O&M spending per active-duty service member. Although that measure is simplistic, it provides a general indicator of long-term trends in O&M spending. In fact, in 1996 and 1997, the Administration stated that although current levels of per capita spending on O&M were high by historical standards, that was a sign of its commitment to military readiness.[1] Wishing to avoid a recurrence of the readiness problems encountered in the late 1970s, the Administration and the Department of Defense have decreased O&M funding by a smaller percentage than that of the overall defense budget.

In fact, a closer look at per capita trends over the past 15 years reveals significant differences among the services (see Figure 5). Per capita spending to train and support active-duty personnel rose steadily in the 1980s and 1990s in the Army and the Air Force. Navy per capita spending followed a different path, rising in the early 1980s, then dropping back gradually, and settling over the next decade at about its 1981 level.

The premise that continuing increases in per capita O&M funding are necessary to preserve readiness is not at all obvious. In fact, demonstrating the link between O&M spending levels and indicators of readiness is extremely difficult.[2] Benefits from increases in per capita O&M spending in the services are more likely to depend on which categories of spending are increased,

1. Office of the Assistant Secretary of Defense for Public Affairs, "Department of Defense Budget for FY 1997" (press release, Washington, D.C., March 4, 1996), pp. 1-2.

2. Richard K. Betts, *Military Readiness: Concepts, Choices, Consequences* (Washington, D.C.: Brookings Institution, 1995), pp. 130-131.

just as the potential dangers of reducing O&M spending depend on where cuts are made.

The Congressional Budget Office analyzed O&M spending by the active-duty forces in the Army, Navy, and Air Force but excluded spending for the Marine Corps and reserve forces. CBO excluded that spending because of the difficulties in identifying true unit spending trends for the Marine Corps and reserve forces. The Marine Corps relies on the Navy for some of its support just as reserve forces rely on active-duty forces for some of their assistance.

Changes in Indicators of Readiness and Operating Spending

Spending on operating forces constitutes the largest single category of O&M spending in each of the services: 32 percent in the Army, 40 percent in the Air Force, and 47 percent in the Navy (see Table C-4 in Appendix C). Spending for operating forces pays for

Table 8.
Changes in Spending on Operating Forces and in Training Levels

Service	Change Between 1981 and 1989	Change Between 1989 and 1996	Change Between 1981 and 1996
	Spending on Operating Forces		
	In Billions of Dollars		
Army	3.0	-2.7	0.3
Navy	-7	-4.2	-4.9
Air Force	2.4	-3.4	-1.0
Total	4.7	-10.3	-5.6
	In Percent		
Army	55	-32	5
Navy	-5	-30	-33
Air Force	29	-32	-12
Total	16	-31	-20
	Training Levels		
	In Thousands		
Army Tank Miles	228[a]	-1,645	-1,417[a]
Navy Underway Steaming Hours	86	-439	-353
Air Force Flying Hours	74	-604	-530
	In Percent		
Army Tank Miles	7[a]	-50	-46[a]
Navy Underway Steaming Hours	7	-35	-30
Air Force Flying Hours	6	-48	-45

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

NOTE: Active-duty forces only, excluding Marine Corps.

a. Measured from the 1982 level. The level for 1981 is not available.

field training by military units and for the maintenance of their equipment. One would expect that spending to be closely related to changes in training levels or readiness standards. But spending on training has not varied in proportion with the amount of training performed by the services (see Table 8 on page 27). Nor has readiness changed with spending.

Although force levels changed little during the 1980s in any of the services, the Air Force and the Army earmarked the lion's share of their additional O&M resources for operating forces that fund training units in the field. Hence, training unit-cost as measured by average spending per flying hour or tank mile of training grew over the decade (see Figure 6). The Navy, however, generally spent less on its operating forces, gradually decreasing average spending per steaming hour (training unit-cost) over the decade.

In the 1990s, force levels dropped substantially, but spending on operating forces in the Air Force and Army dropped far less. Hence, average spending climbed steeply. Unlike the other services, the Navy cut its operating spending more sharply than its force levels; as a result, its average spending per steaming hour first declined, then drifted upward to just below the level of 1981. Apparently, other factors not associated with changes in force levels were affecting those spending levels.

Changes in readiness standards could be another important factor. It would be useful to know whether changes in operating spending measurably affected readiness in case O&M spending needed to be cut in the future. If resources and readiness are related, one would expect to see higher readiness levels coupled with higher spending on field training by units and vice versa. On the basis of available evidence, however, the Army and the Air Force have not achieved higher readiness standards as a result of the rise in average levels of spending on operating forces in the 1980s and 1990s. Nor did Navy readiness fall with the gradual decline in its average levels of spending on operating forces.

Defining and Measuring Readiness

The first step in seeking connections between spending on O&M and readiness is to understand the term readiness. As noted earlier, CBO uses the term to refer to current operational readiness as defined by the Joint Chiefs of Staff—that is, the ability of forces to perform their wartime tasks.

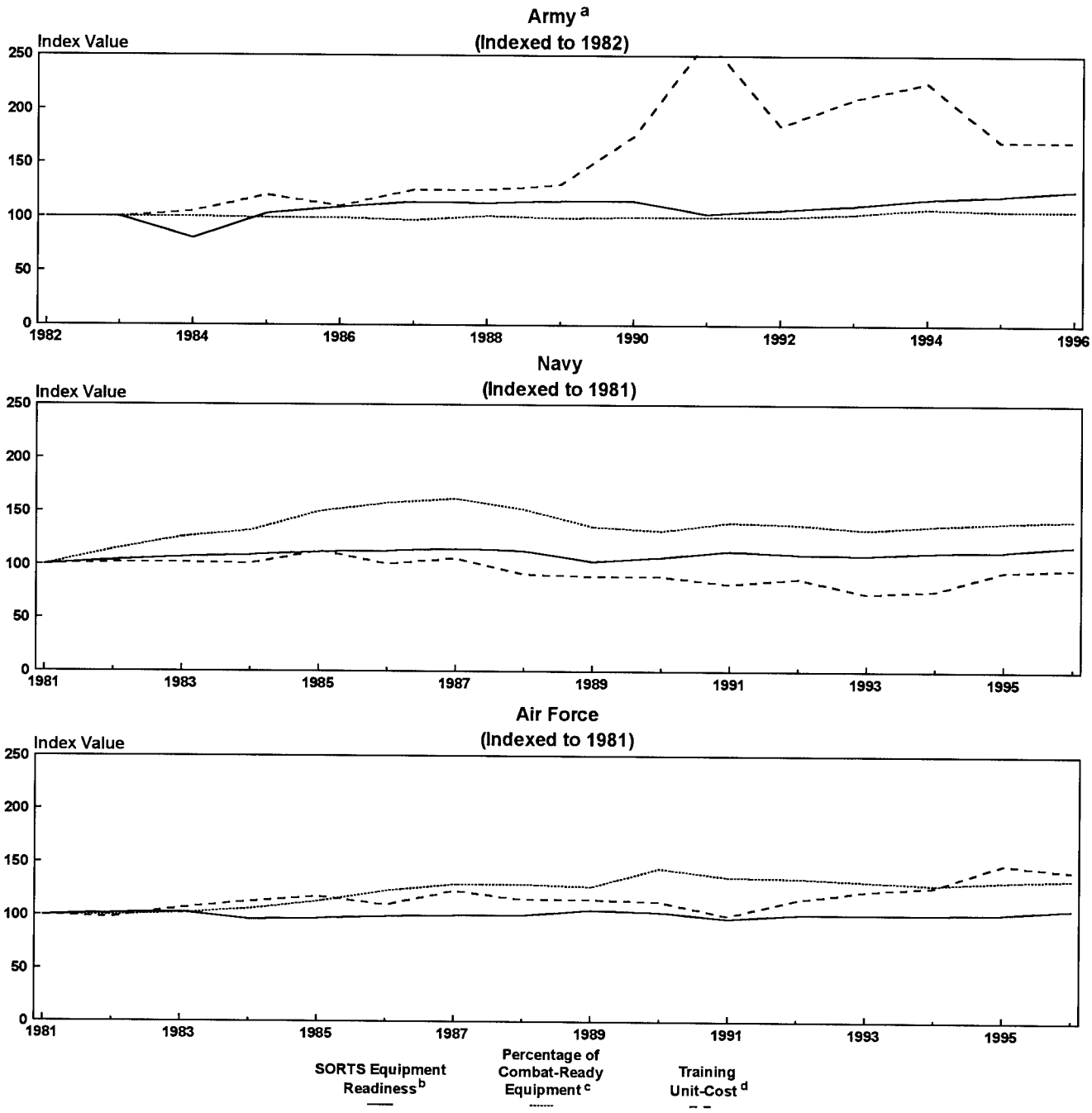
Measuring readiness is also controversial. The services assess operational readiness by tracking a set of indicators that measure the preparedness of military units. The Status of Resources and Training System (SORTS) ratings, based on quantitative indicators and the judgment of commanding officers, measure whether units have the personnel, equipment, training, and supplies needed to go to war. The results are periodically reported to the Joint Chiefs of Staff. Although the primary purpose of SORTS is to alert decisionmakers to shortfalls that must be addressed to preserve wartime capability, SORTS ratings are also used to select forces needed for contingencies, identify persistent problems in units or areas, shift equipment and resources between units, and detect longer-term trends.[3]

Individual units report readiness ratings in four categories: personnel, availability of equipment, training, and condition of equipment. Individual units also report an overall rating, which reflects the lowest rating in any individual category unless modified by the commander on the basis of other factors.[4] The Joint Chiefs of Staff set the scoring standards for C-ratings (C stands for category) in each area. Although military commanders would readily deploy units with scores of C-1 or C-2 under which a unit is judged to be "fully" or "substantially" ready to carry out its wartime tasks, units in C-5 status—those undergoing maintenance or

3. Chairman, Joint Chiefs of Staff, *Memorandum of Policy No. 11, Status of Resources and Training System (SORTS)* (December 24, 1992), p. 2. For the predecessor of the SORTS ratings in the 1980s, the Unit Status and Identity Report (UNITREP), see Department of Defense, *Improvements in U.S. Warfighting Capability, FY 1980-84* (May 1984), pp. 98-100. For a further description of indicators of readiness, see S. Craig Moore and others, *Measuring Military Readiness and Sustainability,* R-3842-DAG (a report prepared by RAND for the Defense Advisory Group to the National Defense Research Institute, 1991), p. 11. For a more recent but similar description of the purposes of SORTS, see Office of the Inspector General, *Evaluation Report on the Status of Resources and Training System,* Report No. 96-086 (March 15, 1996), p. 7.

4. See Joint Chiefs of Staff, *Memorandum of Policy No. 11*, pp. A-1 to A-4; and Joint Chiefs of Staff, *Joint Reporting Structure, Status of Resources and Training System (SORTS)*, Joint Publication 1-03.3 (August 10, 1993), pp. xiv-1 to xiv-32.

Figure 6.
Changes in Indicators of Equipment Readiness and Spending in the 1980s and 1990s



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

NOTE: The figures show rates of change compared with the levels in the base year. In other words, the vertical axis represents an index in which the base year equals 100 in each category.

a. The spike in Army spending reflects additional costs associated with Desert Shield/Desert Storm. Army data are indexed to 1982 because spending per tank mile cannot be computed before that date.

b. *Status of Resources and Training System (SORTS)* scores for equipment readiness show the portion of the force that has its equipment ready for combat.

c. *Percentage of Combat-Ready Equipment* is measured by "mission-capable" rates in the Army and Air Force and by "casualty reports" in the Navy. Both rates show the amount of equipment that has no serious maintenance problems.

d. *Training Unit-Cost* is computed by dividing operating spending by the number of tank miles in the Army, flying hours in the Air Force, and steaming hours under way in the Navy.

in transition and not currently manned or equipped—would not be deployed.[5]

Strengths and Weaknesses of SORTS Ratings. SORTS has been criticized for various reasons, ranging from its emphasis on tracking resources rather than actual performance, to its sensitivity to particular circumstances that may be short-lived or easily solved (such as temporary shortages of a minor part). SORTS ratings have also been criticized for evaluating units in a scenario that may not reflect their probable wartime role: for example, a unit likely to be deployed in the later stages of a crisis may be evaluated as if it must be immediately available. Finally, critics have questioned the accuracy and timeliness of the scores, including their susceptibility to "gaming" by commanders concerned with protecting or enhancing their reputation.[6]

In view of all those criticisms, can SORTS ratings be used as an indicator of long-term trends in readiness? Despite their shortcomings, SORTS ratings probably do indicate whether units carry out their designated training, whether equipment is ready to be used, and how readiness of forces varies over time.[7] Because low SORTS ratings generally lead to corrective actions, the system's sensitivity to individual problems is likely to be compensated for over longer periods of time. Because deployment schedules that are assumed in the standard scenario may be more stringent than those faced by some units, ratings may be conservative. That conservatism may counterbalance any tendency of commanders to be overly optimistic. Moreover, unless the amount of "gaming" changes over time, SORTS ratings would still identify trends. Finally, the accumulation of SORTS ratings from many units covering long periods of time could offset individual biases in reporting.

SORTS remains the basic method for tracking changes over time and the one that is most closely tied to those elements that are considered crucial to maintaining military readiness—namely, ensuring that the military has sufficient personnel and appropriate equipment and skills, and that units carry out training exercises to maintain those skills.

One would expect SORTS scores for training and the condition of equipment to reflect levels of O&M spending for operating forces. However, DoD continues to treat most SORTS scores that are less than eight years old as classified information.[8] Classifying those data has made public discussion of the relationship between readiness and resources difficult because there is little unclassified, comprehensive, quantitative evidence.[9] Nor is much information provided by military commanders who testify before the Congress about the readiness of their troops, because they generally focus on specific current problems—such as the effect on the training readiness of deploying troops in operations other than war—rather than the longer-term issue of the relationship between O&M resources and readiness. To examine that relationship, CBO developed unclassified indexes of SORTS scores for training and equipment condition that show changes over time without revealing actual scores at any point (see Figures 6 and 7).

Other Indicators of Readiness. In addition to SORTS ratings, DoD uses two other indicators (available on an unclassified basis and used as a contributing

5. A unit with a rating of C-3 is considered able to meet "many, but not all" of its wartime functions and could be deployed if necessary. Units with ratings of C-4, however, are judged able to meet only "portions" of their wartime mission and would need additional training or supplies before deployment. To qualify for a particular C-rating, a unit must generally reach certain percentage levels, which vary for each SORTS category. For example, to be rated C-1 in equipment condition, at least 75 percent of the aircraft in a unit must be "mission capable" or in good repair and have sufficient supplies to carry out its wartime mission. For training, the commanding officer rates whether units are ready to go to war on the basis of quantitative factors and his or her own judgment.

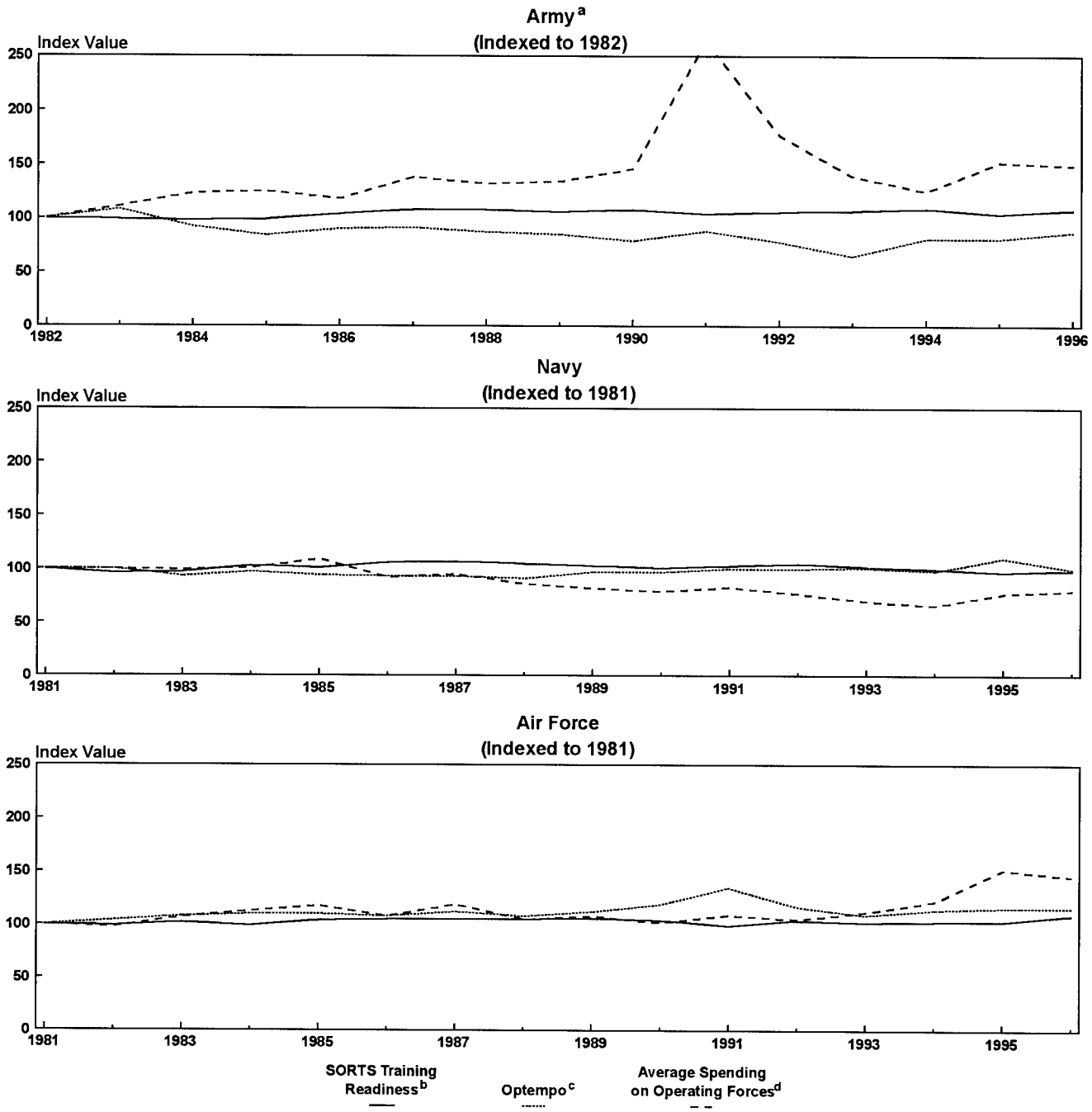
6. For an extensive discussion of problems in measuring readiness, see Moore and others, *Measuring Military Readiness*, pp. 23-24; and Betts, *Military Readiness*, Chapter 4.

7. For a similar conclusion about the accuracy of Navy readiness data, see Matthew Robinson and others, *Avoiding a Hollow Force: An Examination of Navy Readiness*, CRM 95-238 (Alexandria, Va.: Center for Naval Analysis, April 1996), pp. 19-23 and 63-64.

8. The Joint Chiefs of Staff (JCS) policy directive calls for SORTS historical data to be downgraded one level every four years. Since SORTS data are initially classified as "secret," that would declassify data that are eight years or older. Each of the services, however, has adopted somewhat different practices of classification. For example, for SORTS category ratings covering all active-duty forces, the Army and Navy classify all data that are less than eight years old. The Air Force classifies all SORTS scores that distinguish active from reserve forces separately, but not SORTS scores for the entire Air Force. See Chairman, Joint Chiefs of Staff, *Memorandum of Policy No. 11*, p. 11, for JCS policy.

9. Betts, *Military Readiness*, p. 131. See also testimony by Edwin Dorn, Undersecretary of Defense for Personnel and Readiness, in House Committee on National Security, *Hearings on Natonal Defense Authorization Act for Fiscal Year 1996 (H.R. 1530): Title III—Operation and Maintenance*, H.N.S.C. No. 104-6 (March 16, 1996), p. 530ff.

Figure 7.
Changes in Indicators of Training Readiness and Spending in the 1980s and 1990s



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

NOTE: The figures show rates of change compared with the levels in the base year. In other words, the vertical axis represents an index in which the base year equals 100 in each category.

a. The spike in Army spending reflects additional costs associated with Desert Shield/Desert Storm. Army data are indexed to 1982 because ground optempo cannot be computed before that date.

b. *Status of Resources and Training System (SORTS)* scores for training readiness show the portion of the force that is considered sufficiently trained to perform its duties in wartime.

c. *Optempo*, or operating tempo, measures the frequency of field training. Average number of tank miles per year are used in the Army, average steaming hours under way for nondeployed ships in the Navy, and average flying hours per month in the Air Force.

d. *Average Spending on Operating Forces* reflects the total amount spent to operate and maintain equipment divided by the number of personnel assigned to strategic or tactical units.

factor in SORTS ratings) to track the readiness of military units. The first is *operating tempo* (optempo for short), which measures the frequency of field training. Optempo rates represent the standards that the services set for the amount of unit training that is considered necessary over the course of a month, a quarter, or a year to prepare forces for their wartime responsibilities. Optempo standards are expressed as so many hours or miles of training per crew or per weapon system. For example, Air Force optempo is measured by the number of flying hours per crew per month.

Even if force structure did not change, overall operating spending would rise if the services raised optempo standards, thereby increasing the frequency of training. Thus, growth in spending on operating forces—beyond that necessary to support larger force levels—could reflect higher optempo standards. In that case, one could argue that higher O&M spending reflected improved readiness.

In order to carry out field training and be ready for wartime deployment, units must keep their equipment in working order and maintain adequate supplies of spare parts. The second indicator of readiness used by the Army and the Air Force to track the availability of equipment is mission-capable rates for ground and air platforms; the Navy uses casualty reports (known as CASREPs) for the same purpose. Both rates measure the percentage of major equipment (such as aircraft, tanks, or ships) that is in adequate repair, supplied with the necessary spare parts, and ready for its wartime mission.

Higher mission-capable rates or casualty reports should indicate improvements in readiness levels. One would expect higher average O&M spending for flying hours, steaming hours, and tank miles to result in higher readiness levels and vice versa. Thus, levels of readiness should reflect spending on O&M for operating forces. But that does not appear to have been the case.

Comparing Trends in Operating Spending and Indicators of Training Readiness

In order to determine whether greater spending is associated with higher training readiness, CBO compared changes over time in average spending for operating forces with SORTS scores for training and optempo rates in each of the services. The SORTS indexes show changes in the number of units that are considered ready to deploy compared with the base year. Units are considered ready for deployment if they meet certain standards for the amount of training expected of a fully trained unit. CBO used 1981 as a base year for the Air Force and the Navy and 1982 for the Army. (Data on tank miles in the Army were not available before 1982.) Thus, for example, Army SORTS training scores in 1987 show that the share of units ready to deploy was 8 percentage points higher than in 1982, the base year. The Congressional Budget Office compared those indicators of readiness with average spending on operating forces for personnel assigned to strategic and general-purpose units, a measure that adjusts for changes in force levels.[10]

SORTS scores for training in all three services over the past 15 years have been surprisingly stable. That inclusive measure reflects not only whether units are meeting optempo standards but a variety of other indicators reviewed by commanding officers. According to testimony by service chiefs and other high officials, readiness levels in the 1990s can be characterized as "acceptable," or "at high levels." General Ronald R. Fogelman, former Chief of Staff of the Air Force, for example, stated in 1995 that nearly 90 percent of Air Force units were combat ready and that the percentage has remained fairly stable during the past 10 years.[11] Over the past 15 years, for example, the spread between the high and low points in Air Force SORTS scores has been at most 10 to 11 percentage points.

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10. To compute that spending, CBO divided the total spending for operating forces by the number of active-duty military personnel assigned to strategic and general-purpose units. For the number of personnel assigned to strategic and general-purpose forces as opposed to those assigned to support functions such as intelligence or base operations support, see, for example, Department of Defense, *FY 1994 Manpower Requirements Report* (May 1993). That measure is more specific than the per capita number used by the Department of Defense, which divides all O&M spending by all active-duty personnel.

11. Testimony by Ronald R. Fogelman, Chief of Staff, U.S. Air Force, in U.S. Senate, *Department of Defense Authorization for Appropriations for Fiscal Year 1996 and the Future Years Defense Program, Part 3, Readiness*, hearings before the Committee on Armed Services, 104th Cong., 1st session, p. 28; and testimony by Edwin Dorn, March 16, 1996, p. 530. See also Office of the Under Secretary of Defense for Acquisition and Technology, *Report of the Defense Science Board Task Force on Readiness* (June 1994), p. i.

Changes in average spending levels for Air Force operating forces in the 1980s and 1990s exceeded those of the SORTS scores for training. During the 1980s, however, higher average spending paralleled in some years the gradual rise in aircraft optempo rates, which may reflect an Air Force initiative begun in the early 1980s to increase the frequency of training for tactical fighters to 20 hours per crew per month.[12] In the 1980s and 1990s, average flying hours per crew per month hovered between about 18 and 19.5 hours. More recently, however, when optempo varied little, average spending shot up, reaching a level 45 percent above the base year of 1981.

As with the Air Force, increases in average spending for operating forces in the Army cannot be linked to improvements in readiness indicators. Instead, average spending for the operating forces rose by almost 50 percent in the Army during the past 15 years, whereas SORTS training scores remained stable and optempo rates declined. The average number of tank miles per year declined by 15 percent in the 1980s.

It is not clear, however, that the gradual decline in the 1980s represented a conscious decision by the Army to reduce optempo standards. Rather, the decrease in average tank miles may reflect the fact that the Army did not retire its older M-60 tanks as fast as it acquired new M-1 tanks and thus used its inventory of equipment less intensively. That average varied between about 750 and 850 tank miles in the 1990s except for sharp drops in 1993 and 1994 that reflected cuts in training. The Army made the cuts to pay for several unanticipated contingency operations that occurred late in the fiscal year and to meet unexpectedly high expenses for drawing down forces in Europe.

The Navy story shows even less of a connection between changes in average spending levels for operating forces and indicators of readiness. Although SORTS training scores held steady, spending declined in the late 1980s and the 1990s. By 1996, that spending was 20 percent below the 1981 level. Optempo—measured by the average number of steaming days under way per quarter for nondeployed ships—hovered between 27 and 29 days per quarter in the 1980s and 1990s. (To preserve training readiness, the Navy emphasizes the importance of meeting the average number of steaming days under way per quarter for nondeployed ships because that is when most formal training exercises take place.)

The slight decline in average steaming days under way per quarter for nondeployed ships in the 1980s may not, however, signify any drop in readiness. Over the past 15 years, the Navy has come close to meeting its optempo goal of 29 steaming days per quarter for the nondeployed fleet. Moreover, other research suggests that the Navy improved its training readiness during the 1980s and that training has seldom been a problem in the Navy's overall readiness levels.[13] Slight shifts in Navy optempo levels thus do not appear to signal that readiness was harmed by the long-term decline in the Navy's spending for operating forces during the 1980s.

Ultimately, there is little evidence linking changes in average spending for operating forces with changes in indicators of training readiness. Instead, the steeper growth in average spending on operating forces in the 1990s, at a time when indicators of readiness remained at high levels, may reflect a decision by the services to spend more money as a precaution against jeopardizing training readiness. That discrepancy may also reflect the difficulties of downsizing the support structure for combat forces in an efficient manner.

Comparing Trends in Operating Spending with Indicators of Equipment Readiness

Even if the services do not appear to have bolstered training readiness with higher levels of spending, the condition of equipment, the second major indicator of readiness funded with O&M, could have improved. Although there are indications that equipment readiness improved in the Army and Air Force, the link between higher spending and improvements in equipment readiness also appears to be weak.

12. Department of Defense, *Improvements in U.S. Warfighting Capability, FY 1980-84*, p. 73.

13. Robinson and others, *Avoiding a Hollow Force*, pp. 22-23 and 31.

Although its SORTS equipment scores have improved over the past 15 years, training unit-costs in the Army have grown far more sharply. By 1996, those scores had risen by 25 percent, whereas spending levels soared to 65 percent above the base year of 1982. Mission-capable rates for ground equipment remained flat throughout the period.

Unlike those of the Army, SORTS equipment scores for the Air Force varied little throughout the period, showing no responsiveness to the growth of about 40 percent in spending per flying hour over the past 15 years. Although mission-capable rates in the Air Force rose with higher spending per flying hour, whether the improvement reflects higher spending for active-duty forces is not clear, since the Air Force was unable to provide rates for the entire period for the active forces alone. Moreover, those rates remained level in the 1990s at a time when spending per flying hour grew steeply.

As with the other services, the experience of the Navy generally does not support the case that higher average spending improved readiness. Except for a temporary upsurge in the mid-1980s, average spending per underway steaming hour in the Navy has declined gradually for most of the past 15 years while indicators of readiness improved. The upsurge in 1985 may be associated with additional deployments for contingency operations in Grenada and Lebanon. Over the past 15 years, SORTS equipment scores improved by almost 20 percent, and casualty reports, which measure the proportion of equipment ready for combat, rose by as much as 60 percent by 1986.

In the 1990s, both casualty reports and SORTS equipment scores remained at levels substantially above those of 1981 at a time when average spending per steaming hour first dipped and then returned to a level similar to that in 1981. The dip in spending in the early 1990s may reflect artificially low prices charged by the Navy's maintenance depots for ship repairs—one of the major components of operating spending. Because the depots charged prices below their costs, they lost money, and the Congress appropriated additional funds in 1996 to make up for those losses.[14] Over the long term, the condition of ships appears to have improved, notwithstanding the long-term trend toward slightly lower average costs per steaming hour.

Other Factors Affecting Operating Spending

Another factor sometimes offered to explain increases in average operating spending is the modernization of equipment in the 1980s: if more sophisticated equipment required more expensive maintenance and support per hour of operation, average spending would simply rise to meet the same readiness standards.

Proponents of that view frequently cite dramatic increases in the operating costs of individual weapon systems. In the case of the Army, for example, the support costs of operating the M-1 tank are double those of its predecessor, the M-60. The more advanced fighting vehicle, the M-2 Bradley, costs over five times as much as the older M-113. In other instances, however, the cost of supporting a new system is less than or the same as its predecessor; support of the F-16 aircraft has cost less than the F-4, and support of the F-15 is roughly comparable with that of the F-4. The CG-47 cruiser costs about the same to operate as the DDG-2, which it replaced.[15]

Based on growth patterns in the past 15 years, however, modernization does not appear to be the culprit responsible for higher average operating spending. The new budget categories divide the spending that pays for unit training into three subcategories:

- *Combat forces,* funding direct costs of fuel and spare parts for wings in the Air Force, divisions and other combat units in the Army, and Navy ships and planes;
- *Combat operations support,* funding indirect support such as tactical support units and headquarters; and

14. Ship repairs are priced according to cost projections made by the shipyards. If costs turn out to be higher than anticipated, the shipyards lose money. Eventually, higher prices must be charged or additional appropriations voted to make up for those losses.

15. Institute for Defense Analysis, "The Growth and Management of O&S Spending in DoD" (briefing prepared for the Deputy Under Secretary of Defense for Readiness, Office of the Secretary of Defense, June 1996).

- *Depot maintenance,* funding overhauls of equipment.[16]

A close look at those categories reveals that, contrary to some of the examples cited, more modern equipment has not cost more to operate at the unit level. In fact, average spending per hour or mile of training for combat forces has remained stable in the Army and declined somewhat in the Navy and Air Force during the past 15 years (see Figure 8). For example, the higher costs for spare parts for new systems may be offset by their greater reliability, requiring less frequent repair or replacement.

In the Navy, modernization may be responsible for the long-term gradual decline in average spending for combat forces, because ships introduced into the fleet in the 1980s typically are more fuel efficient and have lower operating costs than ships that were retired. The fleet now consists mostly of ships equipped with more efficient turbine propulsion plants. Navy spending on operating forces may also have declined with the shift to greater numbers of nuclear-powered ships. Energy costs are part of the initial procurement cost of nuclear-powered ships rather than a continuing O&M cost.[17]

If modernization did not increase the average costs of combat forces, making it more expensive to attain the same readiness standards, did it increase combat operations support, the second major component of operating spending? Average spending per hour of training for that type of support rose dramatically in all three services in the 1980s and 1990s. In the 1980s, those increases may reflect various initiatives by the services to expand and improve support: adding intelligence and tactical support units, expanding the amount and improving the realism of large-scale training exercises, adding simulation training, and increasing headquarters support and research into the tactics and techniques of combat. Although service commanders believe that those initiatives improve the quality of support and training, such measures are not an inevitable result of the modernization of equipment.

Nor would those types of improvements necessarily be apparent in indicators of readiness. SORTS ratings, for example, primarily measure whether the planned amount of training is achieved, although some qualitative improvements may be reflected in commanders' subjective judgments.

Another factor in explaining higher spending levels for combat operations support may be the difficulties in eliminating indirect assistance, such as that provided by headquarters and tactical units, while downsizing forces. Average spending on combat operations support increased by more than 60 percent in the Army and doubled in the Air Force in the 1990s, a far steeper increase than in the 1980s. The number of tactical units and headquarters may not decline in proportion with the number of units of combat forces.

Such declines would depend on how and where force structure was cut. For example, the Air Force achieved part of the decrease in force structure by cutting the number of aircraft in each squadron rather than eliminating entire squadrons. That practice would probably require a greater proportion of combat operations support for each hour of training and may reflect the difficulties of reorganizing forces, closing bases, and cutting command billets. The Air Force has acknowledged that the current practice is inefficient and is considering restoring the number of aircraft in tactical fighter units to the previous level of 24.

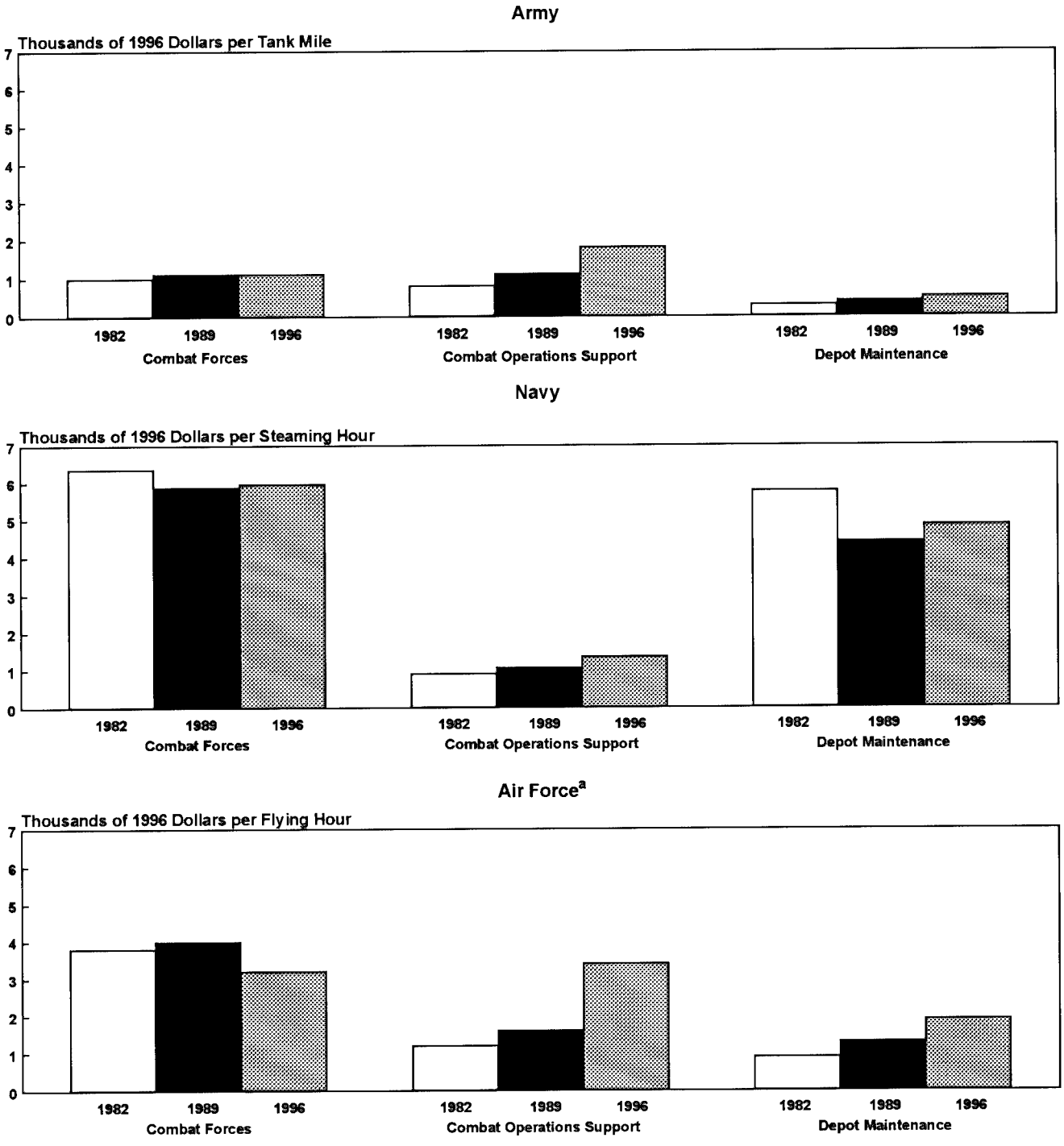
Army spending may be higher in part because that service has increased the ratio of support units to combat forces. The new ratio may reflect the Army's worry that it could have difficulty in marshaling support units to meet small contingency operations quickly. The number of active-duty military personnel providing combat support has decreased less than the number of those assigned to combat forces.

Again, trends differ in the Navy, where average spending on combat operations increased relatively little in the 1980s or the 1990s. The Navy's experience may reflect the fact that much of its combat operations support is provided on ships where space limits expansion. Thus, combat operations support would automatically be eliminated as ships were withdrawn from the fleet. For example, the Navy relies on shipboard radar systems to provide electronic warfare support, whereas

16. Combat operations support refers to the wide range of tactical support units, including those providing intelligence and engineering, weather, or electronic warfare support (see Appendix B).

17. Nuclear refuelings are also funded in procurement.

Figure 8.
Changes in Average Operating Spending in the Army, Navy, and Air Force



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

NOTE: Excludes funding for Bosnia in 1996. Active-duty forces only.

a. Spending per flying hour excludes support of space operations and global command, control, and communications that provide support for all forces.

the Air Force has separate tactical support units of aircraft equipped for electronic warfare. The Air Force would maintain that support for combat squadrons regardless of the number of aircraft in each squadron.

The role of modernization in explaining higher average spending for depot maintenance—the third component of operating spending—is unclear. Again, the trends differ among the services. Spending on depot maintenance per tank mile or hour of training grew by two-thirds in the Army and doubled in the Air Force between 1982 and 1996. By contrast, the Navy experienced a drop of more than 15 percent in spending on depot maintenance per steaming hour, which drove the overall decline in its average spending per steaming hour.

Those trends suggest that new Army and Air Force systems may require more frequent and costly repairs and that new ships in the Navy require less repair. The comparative youth of the current Navy fleet may have given the Navy a "maintenance honeymoon." The newer surface combatants, equipped with gas turbine technology, require less maintenance than the older, steam-powered surface combatants. The Navy has also avoided costly overhauls for older ships by retiring them. Moreover, the Navy has been more aggressive than the other services in closing maintenance depots—including four of its six shipyards and three of its six aviation depots—thereby reducing its excess capacity and lowering overhead costs.

The Air Force, however, has been reluctant to close depots or reduce the size of its depot workforce despite the drop in workload, thereby contributing to the rise in average spending on depot maintenance. A number of analyses have documented considerable excess capacity for aviation repair both within and among the services. The decision by the Base Realignment and Closure Commission to close two Air Force depots would have reduced that excess capacity. The Administration, however, decided to allow the current workforce at the two depots to compete with the private sector for that workload. Thus, excess capacity will probably continue to be a problem.

Benefits from Higher Levels of Operating Spending

Benefits to the services from higher levels of spending on operations are not clear. There is little evidence to support the proposition that readiness levels for training or equipment have improved as average spending on operating forces has risen. Nor does modernization of equipment in the 1980s appear to be responsible for the increase in spending.

Instead, the growth of spending may be the result of a combination of factors, including decisions by the services to add and improve the quality of combat operations support, followed by a failure to reduce that support as the number of combat forces contracted. The same difficulties encountered by other organizations in downsizing may explain higher average spending levels for depot maintenance as well. The Navy appears to have maintained its readiness despite lower operating spending levels, in part because of the benefits it derived from modernization and in part because of its greater success in adjusting to downsizing.

Implications for the Future

Projecting spending for operating forces is difficult because of the complex mixture of factors affecting trends. One can, however, make some generalizations. First, although the services can save much by decreasing force structure—operating spending has fallen by more than $10 billion since 1989—O&M savings are likely to be significantly smaller than cuts in force structure and associated training levels (see Table 8). Operating spending in the services fell by 31 percent, but training levels dropped by about 35 percent in the Navy, 50 percent in the Army, and 48 percent in the Air Force. The discrepancy arises because combat operations support and depot maintenance have not fallen as much as workload indicators, except in the case of the Navy.

If long-term trends in operating spending persist, the Army and Air Force could face higher unit costs to sustain training standards, even with a stable force structure. If recent increases stem from the difficulties in adjusting to the drawdown, however, unit costs could rise more modestly and could even decline if forces are

consolidated in response to planned base closures. The services would argue, certainly, that levels of operating spending are stabilizing. Historically, however, only the Navy shows evidence of stable operating spending.

Past trends also indicate that operating spending will probably not decrease in the future unless major changes take place in the ways in which that support is provided or more force structure is cut. Despite the lack of evidence that higher average operating spending improves readiness, the services appear to be reluctant to cut it as much as force levels or to improve the efficiency of that support.

Changes in Spending on Mobilization

Unlike other areas of O&M managed by the services, spending on mobilization was greater in 1996 than in 1989, despite the drawdown. At about $4 billion in 1996, that funding trains the military personnel who would transport troops and equipment in wartime, provides for prepositioning of supplies overseas, and pays for the cost of maintaining sufficient airlift capacity to meet wartime requirements.[18] Between 1981 and 1996, spending in support of mobilization activities grew from $2.5 billion to $3.6 billion, an increase of about 45 percent (see Table C-2).

Spending on mobilization has grown mainly because DoD has placed more emphasis on meeting the mobilization requirements of post-Cold War scenarios. Requirements for transportation have fallen less than the drop in force structure because fewer troops are based overseas and because the new plans require that large numbers of troops and equipment be transported rapidly to theaters that are more distant than Europe. Provided with higher funding levels and somewhat lower demands, the services are closer to meeting those requirements than they were in the 1980s.[19]

The higher level of spending on mobilization is likely to continue as long as the Department of Defense remains committed to the current scenario of being prepared to fight and win two nearly simultaneous major regional conflicts, unless, of course, DoD adopts less stringent demands for the speed at which equipment, supplies, and personnel must be deployed or develops less costly ways of meeting the requirement.[20]

Changes in Spending on Infrastructure

There is no single definition of "infrastructure spending," although there are similarities in the ways in which the term is used. In its Bottom-Up Review, DoD used the term "infrastructure" to refer to all O&M and personnel spending on "all DoD activities other than those directly associated with operating forces, intelligence, strategic defense, and applied research and development."[21] Under the O-1 categories, mission-related spending consists of O&M for operating forces and mobilization. Infrastructure spending includes the other three budget activities: training and recruiting, administrative and servicewide support, and base support. At $31 billion, O&M spending by the services on infrastructure currently makes up more than one-half of their O&M spending, remaining at about 53 percent during the past 15 years (see Table C-1).

Spending on infrastructure might be expected to be less responsive to changes in force structure, at least in the short term. In fact, however, the services decreased that spending in the 1990s by almost the same rate as that of mission-related spending (see Table 9).[22] The overall decrease—25 percent—is smaller than the reduc-

18. In order to maintain enough airlift capacity to meet wartime needs, the services subsidize the cost of peacetime transportation of supplies. Customers of those services are charged commercial rates rather than actual costs so that they will not turn to commercial vendors. This subsidy is also funded in the mobilization category. In addition, smaller amounts are included in mobilization for the deactivation of military equipment—for example, mothballing ships—and industrial preparedness measures.

19. Congressional Budget Office, *Options for Strategic Airlift*, CBO Memorandum (October 1995), pp. 1-5.

20. Congressional Budget Office, *Moving U.S. Forces: Options for Strategic Mobility* (February 1997).

21. Les Aspin, Secretary of Defense, *Report on the Bottom-Up Review* (October 1993), p. 97.

22. Spending and rates of change within individual O-1 budget activities, however, varied among the services. See Tables C-2 and C-3.

Table 9.
Changes in O-1 Budget Categories for Operation and Maintenance Spending by the Services

Budget Activity	Billions of 1996 Dollars			Percentage Change Between		
	1981	1989	1996	1981 and 1989	1989 and 1996	1981 and 1996
Mission-Related Spending						
Operating forces	29.0	33.9	23.5	17	-31	-19
Mobilization	2.5	2.9	3.6	17	24	45
Subtotal	31.5	36.8	27.1	17	-26	-14
Infrastructure-Related Spending						
Training and recruiting	3.8	5.1	3.8	34	-24	1
Administrative and servicewide support	14.5	16.5	13.3	14	-19	-8
Base support	18.4	20.3	14.2	11	-30	-23
Subtotal	36.6	41.8	31.4	14	-25	-14
Total	68.1	78.7	58.5	16	-26	-14

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

NOTE: O-1 is Department of Defense shorthand for its budget categories for operation and maintenance.

tion in the number of active-duty personnel being supported, however, leading to an increase in spending on infrastructure support per person. According to those trends, infrastructure spending is unlikely to provide future savings in O&M without major changes in the way that support is delivered.

Unlike spending on operating forces, which is presumed to contribute to readiness, spending for infrastructure support may best be evaluated in terms of the relative efficiency with which support is delivered. For example, the cost of administrative support depends on the way in which the workload is organized and managed. Another factor making infrastructure support less efficient is the number of bases retained by DoD. Even after four rounds of base closures, DoD still holds more real estate in relation to the size of military forces than it has in the past and will continue to do so even after all planned base closures are completed in 2001.

Spending for Individual Training Has Not Fully Adjusted to the Drawdown

One would expect that spending on individual training, unlike other types of infrastructure spending, would vary with changes in military personnel levels and force structure. Military personnel are sent to DoD's schools for individual training, first before recruits are assigned to units and then periodically during their career to upgrade their skills or prepare for new assignments.

In 1996, the services spent about $3 billion for that preparation. Training, plus smaller amounts for recruiting and other personnel support, makes up between 5 percent and 9 percent of each service's O&M spending. That funding pays for civilian instructors, supplies and equipment, and management support for training both active-duty and reserve personnel. Training of reserves, which is largely funded by the active-duty forces, makes up about 20 percent of the total training workload.[23]

Conducted almost exclusively at military facilities, individual or "schoolhouse" training is considered an investment ensuring that active-duty and reserve per-

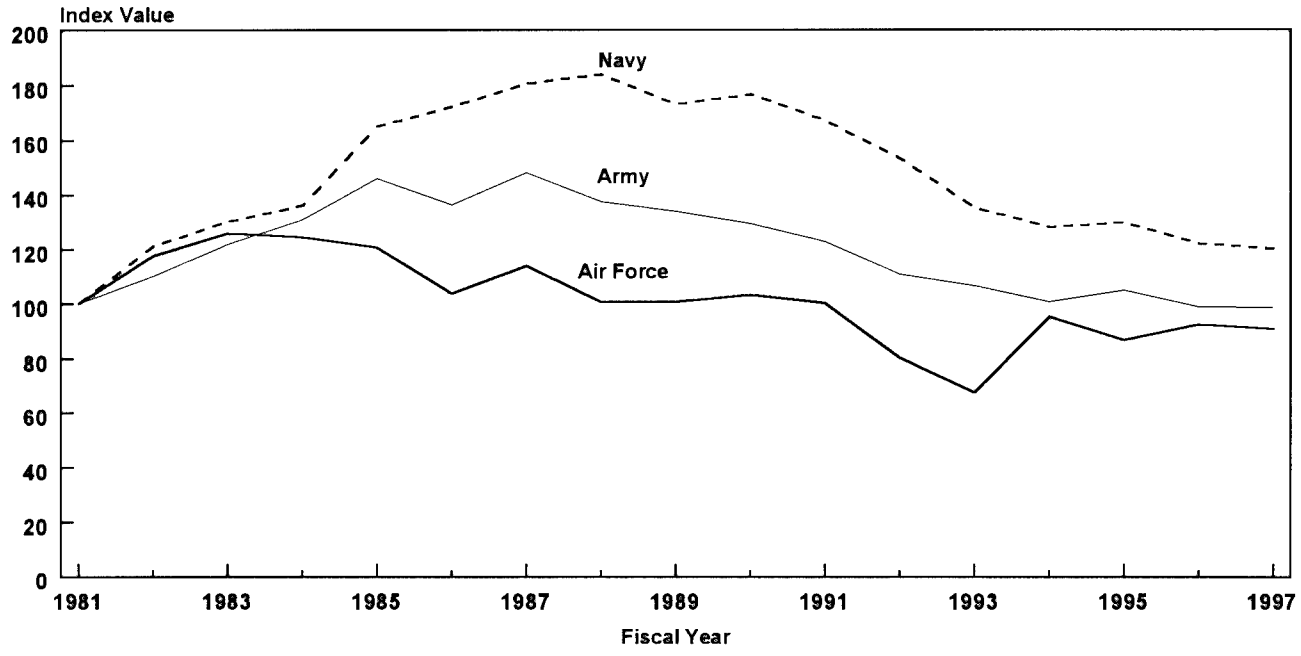
23. Operation and maintenance funding does not cover all the cost of individual training. Other expenses of training, including the cost of military instructors and the salaries of military personnel while they are in training, are funded in the military personnel appropriations. The total cost of training, including both O&M and military personnel funding, was about $14 billion in 1996.

sonnel are prepared to carry out their jobs. In some cases, on-the-job training can substitute for individual training in classrooms. If such training was inadequate or if training levels were low, the readiness of a unit could eventually decline, although it would be difficult to track the specific effect of different levels of individual training on readiness because other factors such as the quality of personnel affect it.

Contrary to the expectation that training varies with force size, spending for individual training grew dramatically in the 1980s, when force levels experienced only minor fluctuations. That spending has remained relatively high in the 1990s (see Figure 9). Spending on training grew by about one-third in the 1980s as the services added or lengthened courses and upgraded and invested in training devices and simulators. The higher spending may also reflect additional training on new weapon systems introduced in the 1980s, as well as a greater emphasis on specialized skill training and professional military education, both of which are expensive compared with initial training of recruits or officers. The dramatic growth of training in the 1980s, as well as its current level, may also simply reflect the high level of commitment by the services to maximizing individual training and their reluctance to reduce the size of their schoolhouse establishments.

Spending on training remains relatively high, in part because the services failed to downsize their training programs to match lower personnel levels, and in part because the average expense for a year of training has risen in the past 15 years. Because O&M managed by the active-duty forces pays for the cost of training for reserve as well as active-duty forces, changes in the personnel levels of both types are the appropriate measure of workload. Between 1989 and 1996, active-duty personnel levels fell by 30 percent and reserve personnel decreased by 13 percent. If training had fallen in proportion to those personnel levels, workloads would have dropped by 27 percent; instead, they dropped by only 19 percent.

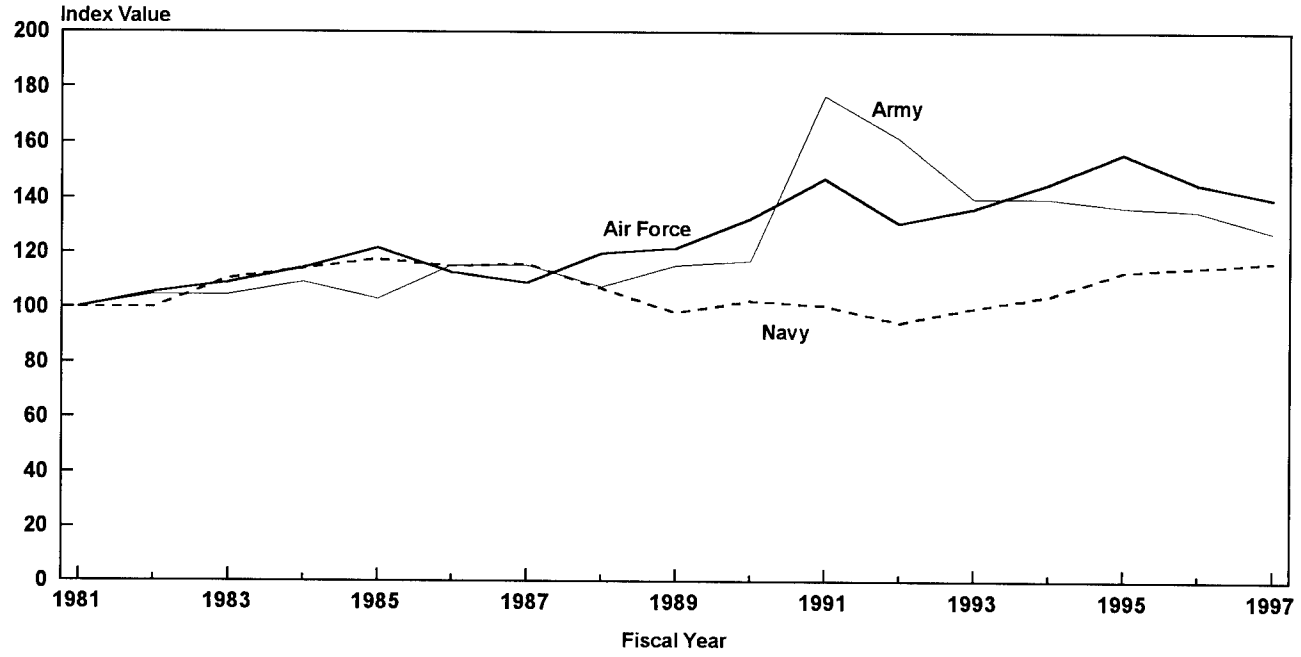
Figure 9.
Changes in Spending for Schoolhouse Training by Service (Indexed to 1981)



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

NOTE: Figure compares spending for schoolhouse training in each service between 1981 and 1997 with the spending for that service in 1981; in other words, the vertical axis represents an index in which 1981 = 100 for each service.

Figure 10.
Changes in per Capita Spending for Administrative and Servicewide Support by Service (Indexed to 1981)



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

NOTE: Figure compares per capita spending for administrative support in each service between 1981 and 1997 with the spending for that service in 1981; in other words, the vertical axis represents an index in which 1981 = 100 for each service. Spending is for active-duty forces only; includes Desert Shield/Desert Storm.

The services believe that higher investment in training is justified as a way of improving performance. Even in the midst of downsizing, for example, the Air Force mounted a training initiative in the early 1990s designed to standardize and expand training opportunities throughout an individual's career. Despite recent calls for more joint unit training in the field and more sharing of "schoolhouses" to improve readiness and efficiency, the services continue to conduct the bulk of individual training at their own schools. Although the services projected that spending per student would fall between 1994 and 1996, savings may be difficult to achieve because the services have consolidated few training programs and closed few training bases.

Despite the relatively high investment, individual training does not appear to have helped ensure that job assignments are filled by individuals with the requisite skills. Indeed, there has been little change in the degree to which job assignments and individual skills in the 1980s and 1990s have been mismatched, according to a CBO analysis of the number of military personnel serving in jobs for which they are not qualified. At the same time, the number of mismatches has remained small.[24]

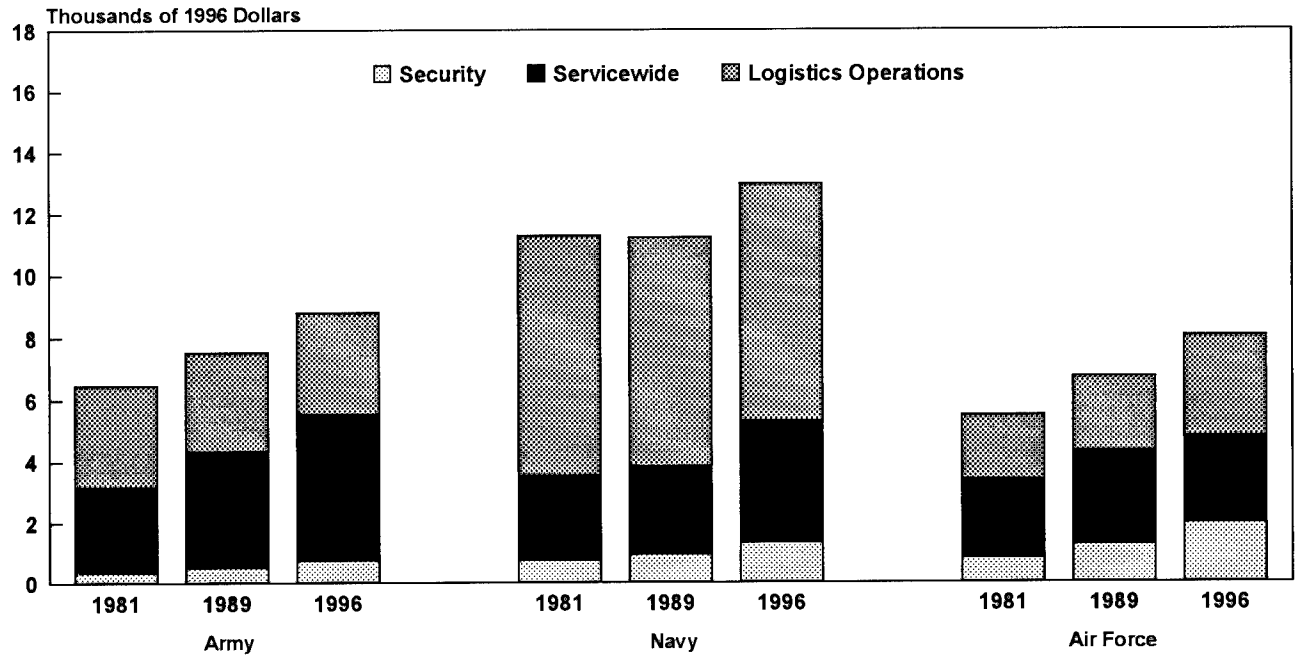
Average Spending for Administrative and Servicewide Support Grows

Spending for administrative and servicewide support, the fourth major budget activity, accounts for about one-fourth of the O&M budget of the services. It totaled $13 billion in 1996 and provides three types of centrally managed support within each service (see Table C-2):

- *Security programs,* including the gathering and analyzing of intelligence by each service;
- *Servicewide support activities,* including civilian and military personnel management, communications networks, information management programs,

24. Congressional Budget Office, *Trends in Selected Indicators of Military Readiness,* CBO Paper (March 1994), pp. 30-31.

Figure 11.
Changes in per Capita Spending for Administration by Service



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

NOTE: Administrative spending per active-duty person excludes funding for contingencies in the years cited.

and headquarters for the support commands (training, personnel, and logistics); and

- *Logistics operations support,* including maintenance depots headquarters, transportation, technical support for weapon systems, and test-range operations.

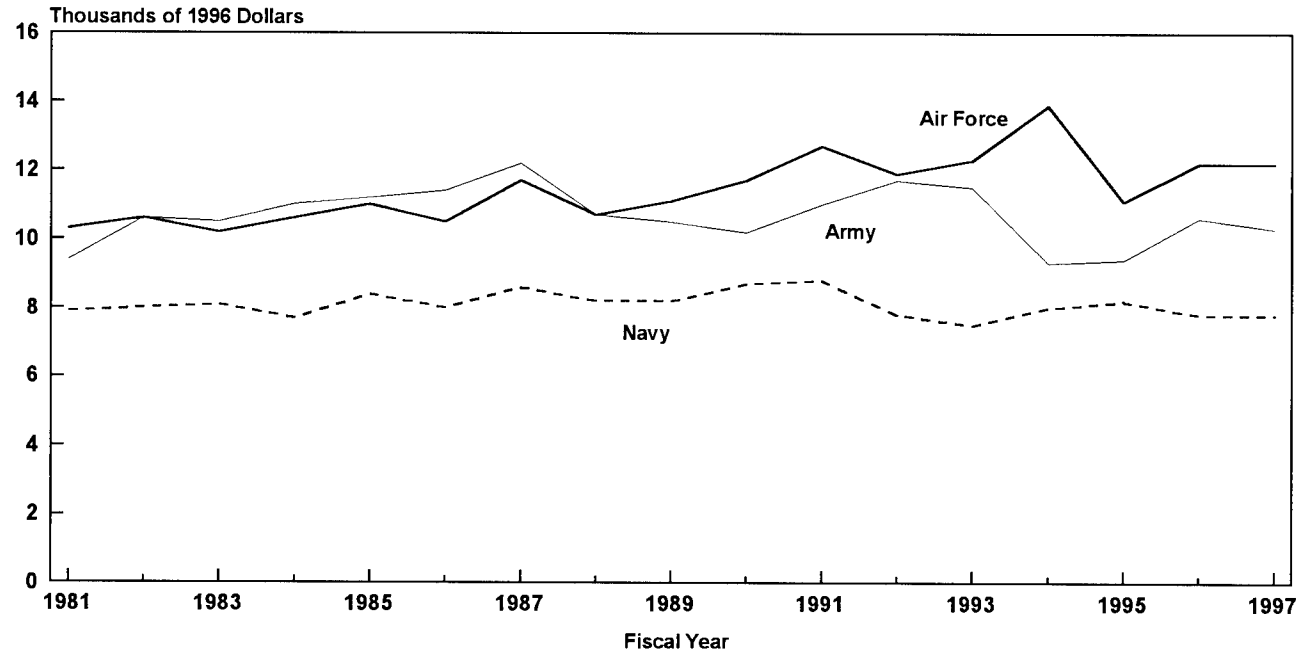
Using a per capita measure as a proxy for workload, the services now pay between 15 percent and 40 percent more for all administrative and servicewide activities than they did in 1981 (see Figure 10 on page 41). During the 1980s, those average support levels rose substantially, reflecting a variety of initiatives to expand headquarters, improve information management, increase oversight, and provide technical support for new weapon systems.

Within administrative and servicewide support activities, average spending on the small security programs of the three services expanded most rapidly. For example, spending per capita more than doubled in the Army from $350 to $730 per person between 1981 and 1996 (see Figure 11). Similar trends took place in the Navy and Air Force. Nor did that spending fall with the drawdown.

Servicewide support followed a similar pattern, but its growth was somewhat smaller. In the Navy, for example, spending was $4,000 in 1996 compared with $2,800 in 1981—a growth of 40 percent; the rate of increase in the Army was 70 percent in the same period. Growth in Air Force servicewide spending was more modest—from $2,600 to $2,800 over the past 15 years.

Logistics operations support was more responsive to the drawdown, remaining almost flat on a per capita basis in the Army and Navy in the past 15 years. Declines in depot maintenance and supply workload caused by the drawdown were greater than declines in active-duty personnel levels, however, suggesting some increase in the average cost of logistics overhead. Air Force logistics support showed a different trend, growing by more than 50 percent, from $2,100 per capita to

Figure 12.
Per Capita Spending for Base Support by Service, 1981-1997



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

NOTE: Spending is for active forces only; includes Desert Shield/Desert Storm.

$3,300, reflecting retention by the Air Force of all of its aviation depots.

Although spending on those types of support activities might not respond to small changes in workload, one would expect more adjustment after several years and a substantial change in workload. Adjustment would probably have to take the form of a major reorganization of responsibilities or a change in the way in which support is delivered in order to achieve significant savings.

To avoid reducing force structure and therefore military capability, DoD adopted a set of reforms in the early 1990s designed to improve efficiency and save money. Known as the Defense Management Report initiatives, those reforms consolidated some functions that were previously managed by the individual services. They included commissary management, financial and accounting services, contract management, printing services, and supply depots. (To take the changes into account, CBO does not include funding for those functions within the service accounts throughout the period. See Appendix A.) Although spending on those activities has decreased significantly, DoD has had difficulty distinguishing consolidation savings from spending decreases as a result of the drawdown.[25]

Most administrative and servicewide support, however, remained under the management of the individual services. They resisted efforts to consolidate larger support activities, such as depot maintenance and transportation, proposing instead to streamline their internal operations. Because average administrative and servicewide support spending continued to rise, streamlining does not appear to have been successful.

25. That was the conclusion of a Defense Science Board Commission convened by former Secretary of Defense Les Aspin to determine whether DoD realized savings included in budget plans for fiscal years 1991 to 1997. See memorandum from the Secretary of Defense in Office of the Secretary of Defense, *Defense Science Board Task Force Report, FY 1994-99 Future Years Defense Plan* (May 1993), pp. 1 and 4 of the memorandum and p. 5 of the accompanying report.

Spending for Base Support Reflects the Size of the Infrastructure

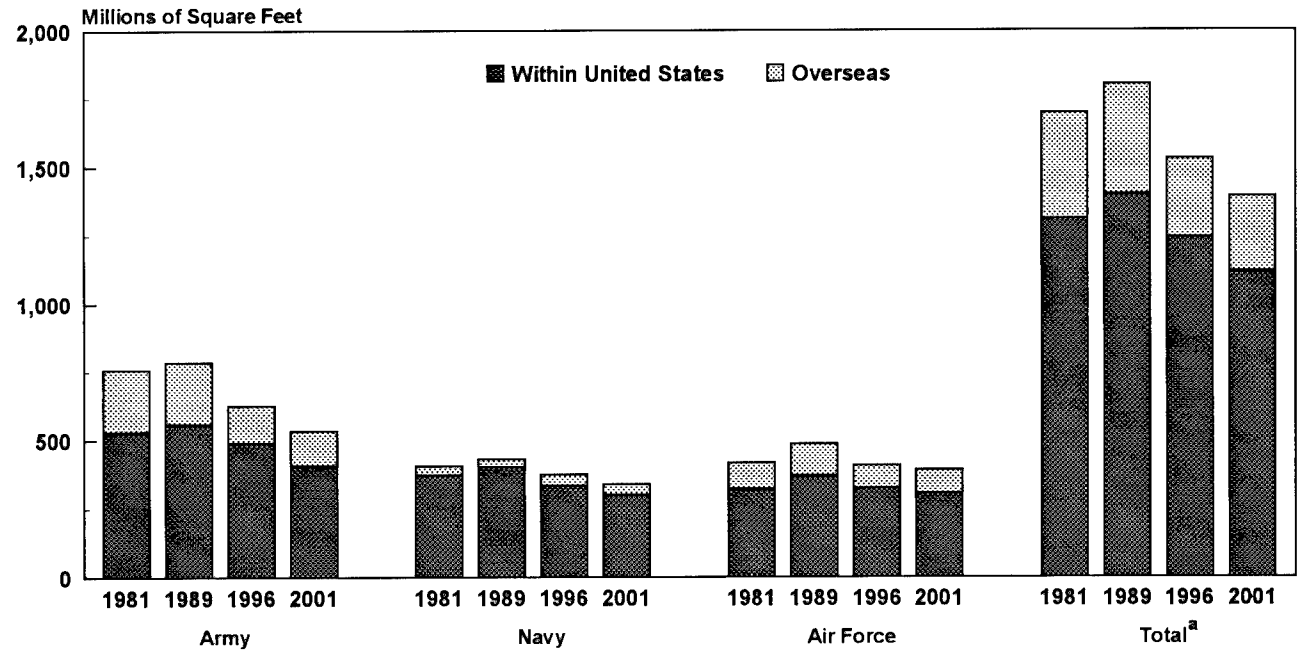
Spending for base support in 1996 totaled $14 billion and made up about another one-fourth of the services' total O&M funding (see Table C-2). As long as the number of bases was reduced in proportion to changes in force structure and the standard of maintenance remained the same, one would expect spending on base support to vary directly in relation to the number of people being served. That has not been the case, however, for a variety of reasons.

Base support encompasses a wide range of activities, from paying for facilities maintenance and utilities and providing community services such as subsidized child care centers, libraries, and fitness centers to complying with environmental regulations. (CBO categorized all environmental spending as defensewide base support because policy and funding levels are set centrally even though the services carry out environmental programs. See Chapter 2.)

Compared with 1981, base support spending per capita grew by about 10 percent for active-duty forces in the Army and about 20 percent in the Air Force. It stayed the same in the Navy. That average spending rose from $9,400 to $10,300 in the Army, from $10,300 to $12,200 in the Air Force, and remained at about $8,000 in the Navy (see Figure 12 on page 43). Apparently, spending on base support in the past 15 years has changed in response to several factors—namely, modest growth in the number of bases during the 1980s, adoption by the services of a higher standard of maintenance, initiatives to improve personnel support on bases, and the scope of base closures.

Some policymakers have suggested that lower spending for real property maintenance—one of the main components of base support—may be a harbinger

Figure 13.
Changes in Total Building Space Within the United States and Overseas, 1981-2001

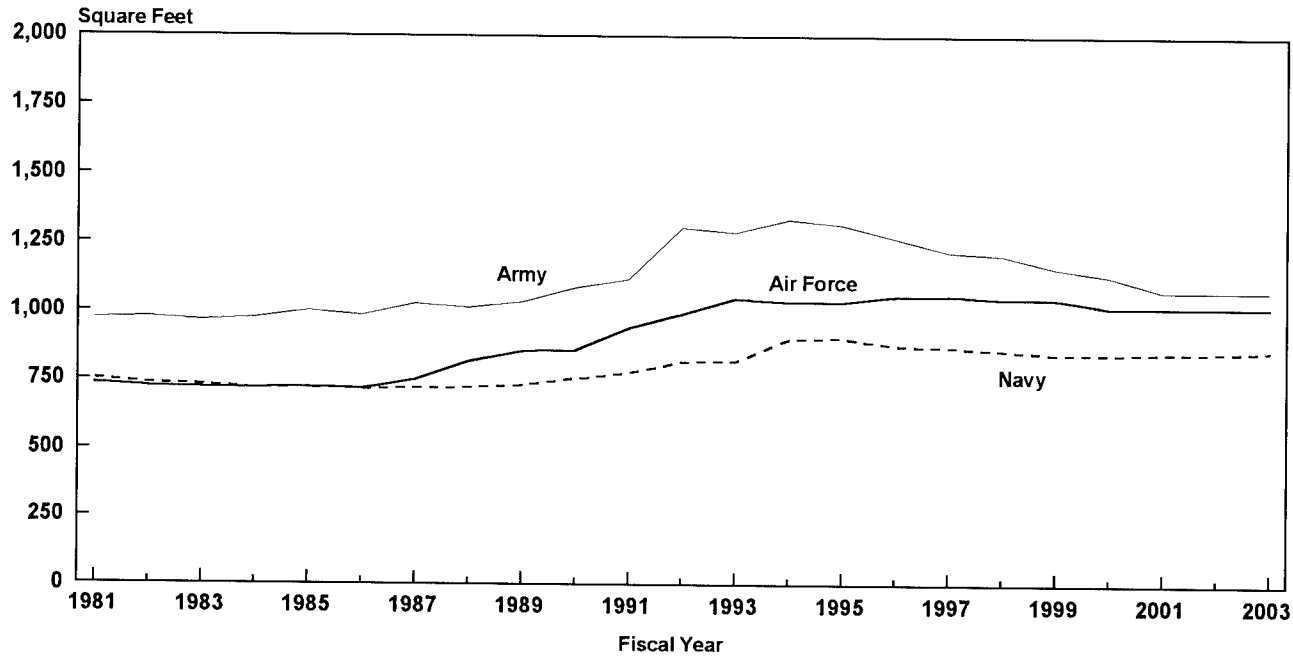


SOURCE: Congressional Budget Office based on data from the Department of Defense.

NOTE: Inventory includes square footage of all buildings on active-duty installations worldwide, except for family housing. Inventory reflects closure of a base even if the service has not yet transferred the facility.

a. Includes real estate managed by all four services, including the Marine Corps.

Figure 14.
Floor Space of Buildings per Capita, 1981-2003



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

NOTE: Inventory includes square footage per active-duty person of all buildings on Army, Navy, and Air Force active-duty installations worldwide, except for family housing.

of future readiness problems. The services may temporarily decrease spending in that area to save money for operating forces or fund other, unanticipated expenses. After all, repairs to facilities can often be delayed; roofs can be patched rather than replaced, and renovations to office buildings can be put off. Delays in repairing facilities, however, will increase the backlog of maintenance and repair (BMAR). That has more than doubled since 1989, to over $12 billion in 1996. But BMAR levels may be only a rough indicator of the adequacy of funding for base support, because the backlog comprises all repair requirements, regardless of their urgency or relationship to mission requirements. For example, the backlog includes not only repairs to airfields but renovations to soccer fields.

Although there is no consensus about an "acceptable" level of BMAR, the Congress added $700 million to DoD's appropriations for facilities maintenance in 1996 because it was concerned about the size and growth of that backlog.[26] Despite those concerns, there is no quantitative indicator that links the readiness of military units with levels of spending for base support.

Nor is there any simple arithmetical relationship between the size of forces and the amount of military real estate. Nevertheless, DoD's real estate expanded more than force structure and workload in the 1980s and has shrunk less than those factors in the 1990s.[27] Between 1981 and 1989, the amount of real estate managed by the active-duty services grew from 1.7 billion square feet of building space to 1.8 billion, or about 6 percent worldwide (see Figure 13).

26. U.S. House of Representatives, *Report of the Committee on Appropriations on the Department of Defense Appropriations Bill, 1996,* Report 104-208 (July 27, 1995), p. 30; and U.S. House of Representatives, *Making Appropriations for the Department of Defense for the Fiscal Year Ending September 30, 1996 and Other Purposes,* conference report to accompany H.R. 2126, Report 104-344 (November 15, 1995), p. 57.

27. Congressional Budget Office, *Closing Military Bases: An Interim Assessment,* CBO Paper (December 1996), pp. xi and 3.

Among other things, that growth reflects new bases opened by the Navy in the 1980s to establish home ports for ships on both coasts, expansion by the Army for its new light divisions, and enlargement of Air Force bases overseas. During the same period, spending on base support for that real estate grew by about 10 percent. That growth probably reflected not only the increase in floor space but also the adoption by the services of higher standards of maintenance and personnel support. For example, the services adopted higher standards for dormitories for enlisted personnel and improved "quality of life" programs such as family support.

In the 1990s, all three services have lowered their spending levels per square foot, perhaps by carrying out fewer repairs on bases slated for closure. Nevertheless, average funding for base support per active-duty person has remained high, in part because of the difficulties of closing bases. Despite the efforts of four base-closure commissions, the reduction in real estate by the services is still proportionately smaller than the reduction in their levels of active-duty personnel.

Between 1989 and 2001, when the fourth round of base closures will be completed, the services will reduce the amount of their building space by about 400 million square feet, or 23 percent. Overall active-duty personnel levels, however, are expected to drop by 33 percent. The Army will cut its floor space by 32 percent, but its number of personnel will shrink by 38 percent; the Air Force will cut its real estate by 20 percent but decrease its personnel by 34 percent; and the Navy will reduce its building space by 22 percent but its personnel by 33 percent in the same period. (Modest cuts in the Marine Corps of only 12 percent will offset the deeper cuts of the other services.) If workload measures such as training hours or tank miles were used as a more appropriate metric, the divergence would be even greater.

About one-third of the decreases in building space occurred in overseas bases in response to the drop of over 60 percent in the number of U.S. military personnel stationed overseas, rather than through the base-closure process. Although decreases since the drawdown in overseas holdings have not matched drops in population, reductions have been more rapid than the 15 percent cut in real estate within the United States that is scheduled to take place by 2001.

Because of the discrepancies between decreases in floor space and cuts in personnel, the average floor space maintained per service member on active duty will still be 16 percent higher in 2001 than it was in 1989 and 21 percent higher than it was in 1981. Average floor space per capita rose by different amounts for each of the services: from just under 1,000 square feet to 1,100 square feet for the Army, from 750 square feet to 850 square feet for the Navy, and from 750 square feet to 1,000 square feet for the Air Force (see Figure 14).

Many officials in the Department of Defense have voiced concern that base closures have not matched the scope of the drawdown. According to statements by DoD officials, the number of bases recommended to the fourth commission for closure was far smaller than originally anticipated.

Although additional savings in base support are anticipated by 2001, the services may face pressure to raise the levels of funding for base support because of concerns about the growing backlog of maintenance and repair. Unless the services can adopt more efficient ways of carrying out base support or unless another base-closure commission is convened, spending is likely to remain close to current levels, forcing the services to devote a relatively high share of their O&M resources to just maintaining physical plants.

Chapter Four

Strategies for Reducing O&M Spending

There are a variety of ways of reducing spending on operation and maintenance to meet the Administration's 1998 plan or to reach those levels of O&M spending consistent with the current budget resolution. The Congress and the Department of Defense could:

- Trim force structure further;
- Redefine the scope of DoD's responsibilities;
- Reduce the amount of O&M support provided;
- Change the way in which support and services are delivered; or
- Cut infrastructure by closing bases.

Under the Administration's plan and the budget resolution, and adjusting for the possibility of underestimation caused by inflation, O&M spending may have to be about $11 billion lower in 2002 than it was in 1996. The estimate assumes that DoD will realize the savings from base closures currently included in its budget plans.

Achieving savings of that magnitude without compromising readiness could require either large additional cuts in force structure or a variety of other changes, including changing the way in which O&M support is provided. Cuts in force structure could be substantial because, based on recent experience, force structure would have to be cut by almost twice as much as the overall O&M savings achieved. The cuts are thus relatively inefficient as a mechanism for trimming O&M spending. They would be comparatively simple to carry out and could be done rapidly. However, the resulting loss of military capability is unlikely to be acceptable unless DoD modifies the current strategy of being prepared for two major regional conflicts that occur nearly simultaneously.

Alternatively, DoD could adopt a variety of changes, ranging from redefining the scope of certain O&M responsibilities and selectively reducing the amount of training, to making major organizational changes in the ways in which O&M support is delivered. The organizational changes could include consolidating equipment at fewer locations, privatizing functions, or reducing military infrastructure through additional base closures. Together, savings from such options could be significant. But they would take time to carry out and would probably provoke significant opposition, both within the services and in the political arena. The great advantage of such options is that they would have little effect on military readiness and would not reduce military capability.

If the services are unable to achieve savings by such approaches, reductions in force structure might be the only other way to meet future levels of O&M spending. In its budget planning, DoD is already anticipating that savings from O&M spending would be available to transfer to modernization or "recapitalization" of DoD's stock of weapon systems. Allocating more resources for O&M support in the future to make up for any shortfall in savings would jeopardize those plans that have been endorsed by military leaders and other proponents of modernization.

Cut Force Structure

The services now spend $59 billion annually in O&M funds to support a force structure of about 1.5 million active-duty military personnel. Since the end of the Cold War, DoD has relied primarily on reductions in those forces to lower the level of O&M spending. The required cuts in force structure can be estimated by using history as a guide. If DoD relied solely on cuts in force structure to reduce total O&M spending by $11 billion (or about 12 percent) by 2002, training levels and the associated forces would have to be cut by about 23 percent in the Army, 24 percent in the Navy, and 36 percent in the Air Force, based on the pattern of reductions during the drawdown. Reductions in force structure vary among the services because each branch allocates its decrease among the major budget categories somewhat differently, although all three services absorbed most of the decrease by cutting operating forces.

The Congressional Budget Office allocated the cut among the services according to each organization's share of O&M spending for active-duty forces in 1996 (see Appendix D). CBO apportioned all of the decrease in O&M spending to those active-duty forces because spending on reserve forces did not decline during the drawdown and defensewide spending grew. If other areas of O&M spending were to increase, still larger reductions could be necessary.

Those estimates assume that the services would preserve current optempo rates and fund support costs at the same average levels as in 1996 as a hedge against jeopardizing operational readiness. The estimates assume that the services will take reductions in their forces and achieve savings as they did between 1989 and 1996.

Assuming that recent patterns were repeated, spending for operating forces would receive the heaviest cuts. Reductions in training and force levels would have to be almost twice as large in percentage terms as the savings in overall O&M spending. A relatively small share of the cuts would fall on infrastructure spending, assuming that it would continue to change less in response to decreases in workload. CBO assumes that the effect on operating levels would also be magnified because spending for defensewide support and the reserve forces would not fall, reflecting what happened during the drawdown.

It should be pointed out, however, that the Department of Defense's total savings from such cuts in unit training and force levels would be significantly larger than those from O&M savings alone because military personnel costs would also be reduced. Indeed, if the services were permitted to allocate the associated personnel savings to O&M, the scope of force reductions needed to achieve a given target of savings would be substantially smaller. For the purposes of this estimate, however, CBO assumed that personnel savings would be allocated to achieve the reductions in spending that would be necessary to meet DoD's overall budget targets or to pay for modernization.

If force levels were considerably smaller, the services might find it impossible to meet the requirements of two nearly simultaneous major regional conflicts. Of course, if that scenario was changed, smaller force levels might be acceptable.

If those cuts in force structure are unacceptable, however, DoD could use other approaches to reduce O&M spending, ranging from redefining DoD responsibilities to privatizing the delivery of support services. Although those other methods would enable DoD to preserve force structure and readiness, carrying out the alternatives could take time and require difficult organizational change.

Redefine Defensewide O&M Responsibilities

DoD currently spends $25 billion on defensewide O&M support, including such diverse activities as environmental restoration efforts and support for special operations. Some policy changes that would cut spending for defensewide support are already under discussion. They include reducing DoD's role in drug interdiction, slowing its environmental restoration efforts, and redefining its medical role. Although changes in those programs could be controversial, the impact on military readiness would probably be small, and the savings could be significant.

One way to redefine DoD's drug interdiction responsibilities, for example, would be to identify and limit its role to those surveillance, tracking, and interdiction efforts that also provide useful training for military personnel. Other activities that have little or no ancillary benefit to DoD—such as providing aid or training to local or foreign law enforcement officials—could be eliminated. Redefining DoD's mission in that way could reduce the current spending level of about $700 million to about $200 million a year. (That funding level would continue DoD's program to test and treat its military and civilian employees for drugs.)

Proponents of this approach might argue that DoD's participation should be confined to areas that also provide wartime training and that DoD's participation in other areas is not appropriate or effective.[1] Defenders of DoD's current role contend that the Department of Defense should expand and share its resources (for example, in personnel or intelligence) with domestic agencies to help in the war against drugs. If DoD's responsibilities in drug interdiction were simply transferred to another government agency, however, there would be little, if any, reduction in overall government spending.

In another controversial redefinition of current responsibilities, DoD could choose to limit its medical services to those essential to potential wartime medical needs and to serve the peacetime needs of active-duty personnel. Care of other beneficiaries—dependents of active-duty personnel and retirees and their families—would be turned over to the civilian sector by offering beneficiaries coverage under a civilian health plan.[2]

Such a redefinition of DoD's medical mission could save more than $2 billion a year after it was fully in place. Those savings would result from dramatically cutting the size of DoD's direct care system and charging beneficiaries a premium similar to that charged civilian federal employees. The change would reduce DoD's costs for those electing coverage, provide incentives for them to limit their use of medical care, and encourage some of those who are eligible to rely on other sources of medical insurance.

Military medical officials, however, oppose the change, contending that the scope of DoD's current medical establishment and its current peacetime care must be maintained to train physicians for wartime duties and to attract and retain medical personnel. To a large extent, however, DoD already separates its responsibility for providing medical care to dependents and other beneficiaries from its wartime role; many non-active-duty beneficiaries rely on DoD's insurance program for their medical benefits. For wartime training, DoD could also develop ties with civilian hospitals that have shock trauma centers and treat patients suffering from injuries comparable with those encountered during wartime.[3] Opponents of that approach emphasize the potential effects on morale of increasing out-of-pocket costs for health care benefits available to current and former DoD military personnel. Beneficiaries might, however, also receive improved coverage through a civilian provider.

Reduce Training Levels Selectively

O&M spending could also be reduced by providing somewhat less unit or field training to operating forces, which now costs the services $24 billion a year. Conducted by units at their home bases and on deployments to regional or national training bases, that training could be trimmed for those units that are likely to be deployed later during a conflict and would have more time to "train up" before being sent into battle. Training requirements could also be scaled back in recognition of the gains in proficiency achieved by forces deployed overseas for operations other than war.

Originally characterized as "flexible" readiness by then Senator Sam Nunn in 1990, that approach was

1. See "GAO Pessimistic About U.S.-Mexican Drug Control Efforts," *Inside the Pentagon* (July 4, 1996), p. 20.

2. For a full discussion of this alternative approach, see Congressional Budget Office, *Reducing the Deficit: Spending and Revenue Options* (March 1997), pp. 71-72. See also Congressional Budget Office, *Restructuring Military Medical Care*, CBO Paper (July 1995).

3. Congressional Budget Office, *Restructuring Military Medical Care* Ch. 2.

recently proposed again by Senator John McCain.[4] Senator McCain has suggested three tiers of readiness: training to the highest level those forces that are deployed overseas or designated for crisis response, training to a second level those forces required for a major buildup, and setting lower training levels for those forces that would be deployed either seldom or not until six months after a conflict was initiated. The services are currently exploring the proposal.

If training for forces that are less likely to be deployed was reduced by 10 percent below current levels, DoD would save about $450 million a year.[5] Proponents of tiered readiness might also suggest that current optempo levels may be higher than necessary in light of the deployment of selected forces for operations other than war. Although those deployments are often faulted for requiring the services to reschedule planned training exercises, military leaders also say that the experiences contribute to the training and proficiency of forces by giving them "real life" practice in handling certain types of conflict.[6] In view of the frequency and continuing nature of these deployments, optempo levels may not need to be sustained at the high levels set during the 1990s.

Moreover, current optempo levels have not been adjusted to reflect the change in the nature of the threat since the end of the Cold War, which has made it likely that the United States will face forces that are considerably less well trained than was previously assumed. Partly for those reasons, the Air Force recently lowered its optempo level for the number of flying hours of training planned for pilots from 20 hours a month—the previous standard—to about 18 hours a month.[7]

4. See Congressional Budget Office, *Reducing the Deficit: Spending and Revenue Options* (February 1993), pp. 108-109. See also the section on "tiered force readiness" in Senator John McCain, *Ready Tomorrow: Defending American Interests in the 21st Century* (March 1996), pp. 19-22.

5. Congressional Budget Office, *Reducing the Deficit* (February 1993), pp. 108-109.

6. See, for example, comments by D.L. Johnson, Assistant Deputy for Operations in the Air Combat Command, as quoted in "Air Force Set to 'Hold Line' on More Fighter Flying Hours Cuts," *Inside the Pentagon* (June 27, 1996), pp. 3-4.

7. Ibid.

Change How Support Is Delivered

Another method of reducing O&M spending is to change the way in which that support is managed and delivered. Many proposals for reform have surfaced in recent years. Consolidating the delivery of support for all four branches and turning to the private sector for services could enable DoD to eliminate excess capacity and save money. But such proposals could require initial investments and provoke opposition.

Consolidate Equipment at Fewer Locations

Spending trends in the support of combat operations suggest that some reorganization and relocation of units may be in order. Average spending to support combat units has risen substantially, particularly in the Army and Air Force over the past 15 years and since the drawdown. If the levels of spending per hour or mile of training in support of combat operations could be returned to those experienced in 1989, the Army and the Air Force could each reduce such expenditures by about $1 billion a year, and the Navy's spending would fall by about $200 million a year.

Consolidating major weapon systems at fewer locations would be one way to lower spending for combat operations support. For example, the Air Force could reduce the number of squadrons and their associated combat support by restoring each unit to the 1990s' complement of 24 aircraft rather than the current complement of 16 to 18 aircraft. The Air Force is now considering that option on the basis of its cost-effectiveness.[8] If there were fewer squadrons at fewer locations, the cost of support for combat operations would fall, and some base closures might be possible as well.[9] Similarly, the Army could consolidate its combat forces

8. "Air Force May Boost Quantity of Aircraft in Fighter Squadrons," *Inside the Pentagon* (May 2, 1996), pp. 1, 10, and 11.

9. General Accounting Office, *Air Force Aircraft: Consolidating Fighter Squadrons Could Reduce Costs*, GAO/NSIAD-96-82 (May 1996). The estimate of savings in that report does not appear to include any reductions in the combat operations support for those aircraft.

in fewer battalions at fewer locations and reduce the number of intelligence, medical, and logistics support units. Reorganizing combat operations support, however, could require initial costs to relocate equipment and limit career opportunities for military personnel by reducing the number of command billets.

Assign Support Missions Exclusively to One Service or Defense Agency

Another way to reduce O&M costs would be to assign one service, command, or defense agency the exclusive responsibility for carrying out a particular support function. Although such changes would require major reorganizations and provoke considerable internal opposition, they could reduce or eliminate underutilization and inefficiencies in the various support organizations within each service and reduce O&M spending.

In order to be effective, the provider of the support service would have to be given exclusive authority over assets, full management control, and the ability to reduce assets and overhead in accord with changes in workload and force structure. Although the evidence from DoD's recent experience is sketchy, consolidations may make it easier for support organizations to decrease staffing to match workload, as well as realize modest savings from the consolidation itself. The potential for greater savings over the longer term may depend on an organization's success in adopting common management information systems and practices as well as reducing overhead and closing facilities.

Previous consolidations by the services have not necessarily achieved large savings, in part because only partial authority was given to the new entity and because of failures to downsize sufficiently. For example, in 1992, the U.S. Transportation Command (USTRANSCOM), the joint command in charge of transportation for all the services, was given responsibility for managing peacetime as well as wartime transportation of troops and equipment.

Because the services retained their individual transportation commands—Military Traffic Management Command for port and freight management (Army), Military Sealift Command (Navy), and Air Mobility Command (Air Force)—USTRANSCOM did not fully consolidate the management of defense transportation. In fact, there is significant duplication in overhead and staffing between USTRANSCOM and the services, as well as cumbersome procedures and multiple handling of the same request, all of which increases unit costs.[10] In addition, USTRANSCOM has no authority over the number or type of cargo aircraft and ships to buy. A genuine consolidation that eliminated management by the individual services and created a single buyer could reduce the number of transports and the cost of maintaining mobility assets that are required for wartime deployments, as well as cut the cost of delivering spare parts to operating forces during peacetime.

Even if support organizations within the individual services were eliminated and exclusive authority was given to one entity, consolidation alone would not necessarily produce large savings. It is difficult to use recent DoD experience to estimate the savings that may be derived from consolidation because of the multiple factors affecting costs during the drawdown; reductions in personnel and closing of facilities may reflect lower demand rather than the effect of consolidation itself. In an early evaluation of the consolidation of supply depots under the Defense Logistics Agency (DLA), for example, the Logistics Management Institute (LMI) was unable to segregate the savings from consolidation from those attributable to a reduced workload, but did note that reductions in civilian personnel were proportional to decreases in depot workload.[11] Achieving such decreases in staffing in proportion with workload, however, is more than DoD typically achieved for administrative and servicewide functions that have continued to be managed by the services (see Chapter 3).

Nevertheless, LMI also found that savings from the reduction of overhead personnel through consolidation of supply depots on the West Coast were less than anticipated because of slower attrition in that workforce. That evaluation was made a little over a year after the consolidation took place and was further complicated

10. General Accounting Office, *Defense Transportation: Streamlining of the U.S. Transportation Command Is Needed,* GAO/NSIAD-96-60 (February 1996).

11. John B. Handy and others, *Independent Evaluation of the Bay Area Supply Depot Consolidation Prototype* (report submitted by the Logistics Management Institute to the Department of Defense, December 1991).

by the temporary upsurge in orders as a result of Desert Shield/Desert Storm.[12]

Although more time has elapsed, it remains difficult to isolate the effects of consolidations because of the wide range of "reengineering" initiatives adopted by the Defense Logistics Agency to reduce costs. For example, DLA credits several factors for decreases in its costs: reductions in the number of distribution depots and the number of employees (reflecting both the consolidation and lower demand) and reductions in the size of its inventory as a result of privatizing and contracting for direct delivery of supplies (reengineering). In fact, some analysts believe that reengineering is likely to generate greater savings than consolidation.[13]

In addition to the consolidation of supply depots under DLA, DoD has eliminated individual service organizations and set up the following new defensewide support agencies: the Defense Printing Service, the Defense Commissary Agency, the Defense Finance and Accounting Service (DFAS), and the Defense Contract Management Command (DCMC).[14] The savings experience of those organizations presents a mixed picture. The Defense Finance and Accounting Service reports that it has realized savings of about $120 million, or about 6 percent of its operating budget, strictly from consolidation, although it anticipates additional savings from continuing initiatives to standardize and reduce the number of accounting systems.[15] According to DFAS, the services originally employed 44,000 personnel to carry out finance and accounting services. By the time that function was turned over to DFAS in 1991, the workforce had fallen to 30,000 employees, and by 1996, DFAS had cut it to 23,000. Those personnel trends show a significant reduction of more than 50 percent in staffing—in response to both the drawdown and the consolidation—carried out in part by the services and in part by DFAS.

The Defense Contract Management Command has also substantially reduced its size since its formation in 1990, trimming its staff from 24,000 to 16,000 and cutting the number of district offices from 10 to two. Because the primary function of DCMC is to administer contracts for weapon systems, its staffing levels might be expected to reflect changes in investment accounts, which have been cut in half since 1989. But since the number of systems has not fallen as sharply as funding levels, expecting strict comparability may not be appropriate. The consolidation of contract management into a single command may well have made greater reductions in personnel more likely than if the services had retained control of the function.

Making predictions on the basis of DoD's recent experience is difficult because downsizing and consolidation took place simultaneously. It appears likely, however, that consolidations, under which a new organization is in charge of staffing, increase the likelihood that personnel levels will be cut to match workload. Thus, savings may be greater than the modest economies associated strictly with reductions in overhead as a result of consolidation. Greater savings over the longer term may require initial investments to convert or adopt standard management information systems and practices as well as to cut overhead and close facilities.

Assuming that consolidation is worthwhile, support functions could be assigned to a particular service on the basis of expertise. For example, the Army could be given responsibility for all civil engineering support, security police, and helicopter maintenance and training because of its predominant role in those missions. The Air Force could be entrusted with the space mission because of its ownership of most space assets and its management of the military's worldwide communication system. The Navy could manage all search-and-rescue support because of its expertise in that area.

Other criteria for selecting candidates for consolidation are cases in which workload is similar and there is excess capacity. For example, the Commission on Roles and Missions recommended that one service manage all fixed-wing and another manage all rotary-wing aircraft depot maintenance, as well as proposing further consolidation of the supply system. Other func-

12. Ibid., pp. 2-5 to 2-7, 3-3, and 3-5.

13. Defense Logistics Agency, briefing prepared for the Congressional Budget Office, National Security Division, May 22, 1995. See also Marygail K. Brauner and Jean R. Gebman, RAND issue paper, "Is Consolidation Being Overemphasized for Military Logistics?" (Santa Monica, Calif., March 1993), pp. 5 and 6.

14. A forthcoming CBO study will address the full range of issues associated with the cost and efficiency of the current commissary system.

15. Presentations to the Defense Science Board by the Defense Finance and Accounting Service, "Status of Privatization Efforts" and "Consolidation of Operations" (November 9, 1995).

tions expected to yield savings from consolidation include individual training, medical care, and acquisition management, all areas in which spending has not decreased in proportion to smaller workloads.[16]

In order for consolidations to be effective and to overcome the reluctance of one service to rely on another, joint training could become more routine and replace the current practice under which most unit and schoolhouse training is carried out by the individual services. For example, if the Army was the sole provider of civil engineering support, Army troops would have to participate in the Air Force's large-scale exercises. Through those exercises, the services would become accustomed to relying on each other for support, one of the chief factors inhibiting cross-service support in the past. Although DoD and retired military leaders have called for greater emphasis on joint training to improve joint operations, most unit training continues to be conducted by the individual services. Consolidating support functions could make joint training more acceptable.

Savings from consolidation could be significant. For example, before the fourth round of base closures, CBO estimated that consolidating maintenance workload among the services—and shedding excess capacity—could save from $350 million to $700 million a year, once the initial costs of moving equipment and closing facilities were offset.[17] That estimate included closure of seven depots, including one closure specifically resulting from pooling the aviation workload among the services.

In the fourth round of base closures, DoD closed an Army and a Navy depot and slated two Air Force depots for shutdown. It is not clear, however, whether the two Air Force depots will be closed. The Administration's latest plan for the depots calls for a competition between private companies and the current government workforce for the depots' workload. DoD did not, however, consolidate workload among the services and continues to keep open more depots than necessary. That experience suggests that DoD will continue to pay prices for depot maintenance that reflect the burden of excess capacity. Closing additional depots could well be more palatable if the authority to allocate and manage workload was centralized.

The extent of initial costs is another key variable in selecting candidates for consolidation; some support functions are more capital-intensive than others. Even if there are significant costs up front, consolidation may still be worthwhile. Determining factors include the extent of excess capacity and the likelihood that staffing levels will be reduced to match workload in a new, centralized organization, allowing the services to close additional bases and thereby shed the burden of excess infrastructure.

Privatize Support Services

Another way to reduce support costs that has received considerable attention is for the government to expand its reliance on the private sector by privatizing or "outsourcing" entire functions. A recent report by a Defense Science Board (DSB) task force recommends that DoD rely on the private sector to provide many, if not most, nonmilitary support functions, just as some companies have contracted out support functions that are not part of their "core" business. For example, many large companies have subcontracted such overhead functions as payroll, benefits administration, human resource management, training, information system management, recordkeeping, and facility maintenance.[18]

Local governments have conducted competitions between public and private providers of services that have traditionally been considered the province of government itself, such as trash pickup and parking ticket enforcement.[19] Similarly, companies have also outsourced such traditional business functions as marketing and distribution. Selection of the appropriate func-

16. See Commission on Roles and Missions, *Directions for Defense*, Ch. 3 (May 24, 1995). See also Congressional Budget Office, *Easing the Burden: Restructuring and Consolidating Defense Support Activities*, CBO Paper (July 1994); and John D. Winkler, *Consolidating Military Education and Training: Perspectives from RAND Research*, PM-291-CRMAF (Santa Monica, Calif.: RAND, September 1994).

17. Congressional Budget Office, *Easing the Burden*, p. 49.

18. See Office of the Under Secretary of Defense for Acquisition and Technology, *Report of the Defense Science Board Task Force on Outsourcing and Privatization* (August 1996).

19. Howard Husock, *Organizing Competition in Indianapolis: Mayor Stephen Goldsmith and the Quest for Lower Costs*, Case Program, John F. Kennedy School of Government, Harvard University (1995).

tions to perform internally and those to be contracted out requires that organizations assess whether those functions are a central part of their basic mission rather than a support function and whether sufficient control can be retained if the function is subcontracted.

The Defense Science Board Task Force on Outsourcing and Privatization noted that many businesses believe that outsourcing improves the quality of support and saves substantial amounts of money. The task force recommended that DoD mount a large-scale initiative and overcome the current obstacles. It also recommended that DoD set a goal to save $7 billion to $12 billion by 2002 by privatizing one-half to two-thirds of all workload of a "commercial nature" and transfer those savings to modernization by 2002.[20] Since both military and civilian personnel perform support functions that could be privatized, there could be savings in both military personnel and O&M appropriations.

What is the potential for O&M savings, and what are the benefits and pitfalls of privatization? The scope of savings from privatization depends on how many activities could be outsourced, the presence of competitive sources in the private sector, and the likelihood of overcoming institutional barriers. Proponents suggest that DoD could achieve substantial savings, improve the quality of services, respond more rapidly to changes in workload, avoid making capital investments in commercial areas, and shed unnecessary infrastructure. Opponents say that savings may not be achieved and sustained, the quality of services could be compromised, the costs of transition assistance to displaced government workers could be high, and local economies could be affected adversely. Precisely because the potential costs and benefits are high and the outcome is uncertain, the debate about privatization of government activities has been contentious and long-standing.

Range of Savings. Estimates of savings vary widely. Some analysts contend that savings are ephemeral and may be offset entirely by higher contract management costs. DoD reports that savings from competing for the delivery of support services between private companies and the current government provider—using the Office of Management and Budget (OMB) Circular A-76 handbook for making cost comparisons and conducting competitions—averaged 31 percent between 1978 and 1994. The Defense Science Board task force assumed savings in personnel costs of 30 percent to 40 percent in its estimates.[21]

Under A-76 competitions, the governmental entity performing the service submits a "bid" based on its "most effective organization," or MEO, which can include a smaller workforce than is currently used. The cost of the MEO is then compared with the offers of the private companies submitting bids. If the government wins the competition, personnel levels for that work center are adjusted to reflect the MEO. Since 1978, DoD has conducted a total of 2,138 studies and now estimates that it saves a total of $1.5 billion a year from those competitions. A study of the Navy's experience with A-76 competitions examined more than 900 of them covering 29,000 positions between 1979 and 1990.[22] Savings were greatest when the function was taken over by the private sector, when several functions and a larger number of positions were involved, or when functions were performed by military personnel. Savings were least when the government won the competition; in 29 percent of the cases, there were no cost savings at all.[23]

Although some estimates of savings by private companies from outsourcing support functions are similar to those in DoD's experience, most of the evidence on savings is anecdotal.[24] According to the DSB task

20. Office of the Under Secretary of Defense for Acquisition and Technology, *Defense Science Board Task Force on Outsourcing*, p. 51A.

21. Department of Defense, *Improving the Combat Edge Through Outsourcing* (March 1996), p. 7.

22. Alan J. Marcus, *Analysis of the Navy's Commercial Activities Program*, CRM 92-226.10 (Alexandria, Va.: Center for Naval Analyses, July 1993), p. 1. See also Office of Management and Budget, *Revised Supplemental Handbook, Performance of Commercial Activities*, Circular A-76 (March 1996), for the regulatory procedures for making cost comparisons between government and private entities for the delivery of "commercial" types of services and the types of areas to be excluded from competition (for example, "inherently governmental functions" such as policy formulation).

23. Marcus, *Analysis of the Navy's Commercial Activities Program*, pp. 5, 12, and 16.

24. The Outsourcing Institute, a recently established association that works with businesses interested in outsourcing and businesses that provide those services, estimated savings of 20 percent to 40 percent but provided no basis for the estimate. See Outsourcing Institute, *The Source* (New York, N.Y.: Fall/Winter 1994), p. 10. The Outsourcing Institute reported savings to businesses of 10 percent to 15 percent to the Defense Science Board Task Force on Outsourcing and Privatization; see Office of the Under Secretary of Defense for Acquisition and Technology, *Defense Science Board Task Force on Outsourcing*, p. 15A.

force, businesses are turning to outsourcing, not so much to reduce costs but to improve the quality of support services and to focus their attention on their "core competencies."

In order to achieve savings, support functions should be similar to work being done in the private sector. How much the government would save also depends on the extent of underutilized capacity and duplication among the services, the size of up-front costs (such as leasing and disposing of equipment and training the workforce to manage contracts), and perhaps most important, the presence of competition in the private sector. Success in achieving savings and avoiding poor performance also requires a skilled workforce capable of specifying and monitoring performance in contracts.[25]

Moreover, although competition may produce savings, proponents of privatization recommend establishing long-term relationships with suppliers by signing five- to 10-year contracts. Such contracts would reduce, if not temporarily eliminate, the pressure of competition and could create problems for DoD if performance was poor, which has happened to some businesses that have outsourced. Long-term contracts could also be problematic for DoD when the government emphasizes selecting the lowest-cost bidder and competing contracts. An additional complication is that funding for support functions is appropriated annually, somewhat limiting DoD's ability to negotiate long-term contracts for support functions. A longer-term contract would have to be contingent on receiving appropriations.

If privatizing enables DoD to reduce the size of its infrastructure and avoid investment in commercial technology, the potential benefits go beyond any immediate savings. Although DoD would pay for capital investment by way of prices, as do private companies, it could share those costs with other customers.

O&M Functions That Could Be Privatized. At first glance, a large chunk of the operation and maintenance budget would appear to have potential for privatization. Many of the functions categorized as administrative and servicewide support are comparable with those performed in the private sector, are common among the services, and have been relatively unresponsive to the drawdown. In addition, most base support services could be performed by private-sector companies (for instance, vehicle maintenance and facility and road repair), and some are already contracted out. Much of the classroom training and education that is funded in the third major budget activity—training and recruiting—is similar to that provided privately. Not all of the functions funded in each category, however, are candidates for privatization.

Functions most suitable for privatization include those for which service companies already exist. Administrative support functions, common to DoD and the private sector, include such areas as records or benefits management, telecommunications, information management, finance and accounting, and personnel management; they have also been popular choices for outsourcing in the private sector.[26]

Other areas in O&M's administrative and servicewide category, such as intelligence programs, obviously would not be good candidates. Those same security programs, however, would be good candidates for consolidation among the services. Similarly, training that is specific to the military and unlikely to be available elsewhere (such as specialized avionics maintenance skill training) might best be provided within DoD, whereas other training that is available at trade schools, local universities, or through private firms (such as business management and basic pilot training) could be privatized.

Of the total budget of about $50 billion for administrative and servicewide support, some $15 billion could be turned over to the private sector. That estimate does not include work comparable with that in the private sector which has already been contracted out.

25. For concerns about privatizing, see statement of Donald F. Kettl, LaFollette Institute of Public Affairs, University of Wisconsin at Madison, before the Senate Committee on the Budget, March 7, 1995; and Keith Naughton, "Has Outsourcing Gone Too Far?" *Business Week*, April 1, 1996, pp. 26-28.

26. "Will Your Finance Function be Outsourced?" *Management Accounting*, December 1, 1995, p. 20; "Benefits Outsourcing Can Reduce Costs, Increase Efficiency, Vendors Report," *Employee Benefit Plan Review*, November 1995, pp. 32-36; "Taking on the Last Bureaucracy," *Fortune*, January 15, 1996; and Garry J. DeRose and Janet McLaughlin, "Outsourcing Through Partnerships," *Training & Development*, October 1995, pp. 51-55. For other references, see Office of the Under Secretary of Defense for Acquisition and Technology, *Defense Science Board Task Force on Outsourcing*.

Table 10.
Statutory Restrictions on Privatization: Key Provisions

Statute	Summary
10 U.S.C. 2461	Mandates extensive reporting to the Congress, including cost comparison study, before outsourcing.
10 U.S.C. 2464	Logistics requirements defined as "core" cannot be outsourced.
10 U.S.C. 2465	Prohibits outsourcing of civilian firefighting or security guard functions at military bases.
10 U.S.C. 2466	Limits outsourcing of depot maintenance to 40 percent of total.
10 U.S.C. 2469	Depot maintenance work valued at more than $3 million may not be outsourced without public or private cost comparison.
Section 8015 of the Appropriations Act of 1997[a]	Requires "most effective organization" (MEO) analysis of all functions with more than 10 civilian employees of the Department of Defense before outsourcing.[b]
Section 8029 of the Appropriations Act of 1997[a]	No funds for A-76 studies that exceed 24 months for one function or 48 months for more than one function.
Section 317 of the Defense Authorization Act of 1987	Prohibits contracting out any function at McAlester or Crane Army Ammunition Plants.

SOURCE: Excerpted from Office of the Under Secretary of Defense for Acquisition and Technology, *Report of the Defense Science Board Task Force on Outsourcing and Privatization* (August 1996).

a. Restrictions included in appropriation law apply only to that year's appropriations unless they are reenacted the following year.

b. MEO represents the estimate by the government of the most efficient workforce that could accomplish the workload that is being competed for under A-76 guidelines.

That estimate also excludes areas that are specifically governmental functions (such as auditing and intelligence), depot maintenance, which is highly controversial, and medical care, for which alternative approaches have already been discussed. If DoD could achieve 20 percent to 30 percent in savings from privatizing functions currently costing $15 billion, annual O&M support costs could be reduced by between $3 billion and $4.5 billion.

If DoD was no longer subject to statutory restrictions on privatizing depot maintenance, another $1 billion in savings might be possible (see Table 10).[27] Although the 104th Congress considered lifting the current statutory restriction requiring that DoD retain 60 percent of depot maintenance work in-house, the final conference report made no change in the law.[28] Since the services now perform about 60 percent of depot

27. Congressional Budget Office, *Public and Private Roles in Maintaining Military Equipment at the Depot Level* (July 1995).

28. U.S. House of Representatives, *National Defense Authorization Act for Fiscal Year 1997*, conference report to accompany H.R. 3230, H. Report 104-724 (July 30, 1996), pp. 732-733.

maintenance work at defense depots, a change in the law would be necessary to privatize more of their workload.

Two recent studies by the Defense Science Board have suggested that savings could be far greater. Those studies assume that more activities could be privatized—such as DoD's medical support activities, commissaries, testing and evaluation centers, military housing, and depot maintenance. The studies also include savings in military personnel as well as O&M.[29] CBO's estimate covers only O&M savings in less controversial areas that are most similar to commercial functions.

Barriers to Privatization. DoD faces several significant barriers to its current initiative to privatize more support activities: statutory and regulatory restrictions, concerns about equity and economic impacts, and worries about the possibility of poor performance by private providers. DoD's success in privatizing support activities depends on the resolution of those issues.

The 1996 Defense Science Board Task Force on Outsourcing and Privatization acknowledges that there are significant statutory and regulatory impediments to widespread privatization. Although strict statutory restrictions apply only to privatization of depot maintenance and firefighting or security guard functions at military bases, the primary limiting factor in other support areas may be DoD's expectation of internal and Congressional opposition. Presumably because of that concern, DoD has not authorized any waivers to current A-76 procedures. Waivers are permitted when the "conversion will result in a significant financial or service quality improvement and . . . not serve to reduce significantly the level or quality of competition," when there is no prospect that the in-house performer of the service could win an A-76 competition, or "in cases where functions are designated for termination on specified dates."[30]

Because few waivers have been given, there are no precedents for the circumstances that would justify waiving A-76 procedures. The DSB task force suggests, however, that DoD could choose to "get out of the business" entirely of performing particular types of support functions, thus eliminating the requirement forA-76 competitions.[31] If the Department of Defense authorized a waiver, it could avoid the kind of time-consuming studies of small, individual work centers that are typically conducted under A-76 procedures.

Although it is not clear what constitutes appropriate grounds for waivers, revisions of the circular in 1996 appear to be designed to limit the application of A-76 cost comparison procedures to continuing commercial activities. In fact, the circular suggests that other "restructuring or reengineering activities, privatization options . . . and terminations of obsolete services or programs" may not be covered by A-76 procedures.[32] The Office of Management and Budget recently suggested, for example, that if DoD chose to buy electrical power directly rather than operate its own power plants, that change would not be covered by A-76.[33] Instead, the change would represent the termination of an obsolete activity. Similarly, the Defense Logistics Agency did not need to conduct cost comparisons when it chose to eliminate its practice of warehousing some supplies and arranged to have vendors deliver supplies directly to customers.

In some cases, however, a decision to terminate a function could undermine or eliminate efforts to consolidate support activities. If the Secretary of Defense, for example, wanted to privatize most of the financial functions performed by the Defense Finance and Accounting Service (as recommended by the Defense Science Board), the organization would probably have to be dissolved. If DFAS no longer existed, the services could choose to contract with private suppliers. If con-

29. Office of the Under Secretary of Defense for Acquisition and Technology, *Defense Science Board Task Force on Outsourcing*; and Under Secretary of Defense for Acquisition and Technology, *Report of the Defense Science Board 1996 Summer Study on Achieving an Innovative Support Structure for 21st Century Military Superiority: Higher Performance at Lower Costs* (November 1996).

30. Office of Management and Budget, *Revised Supplemental Handbook*, Ch. 1, Sec. E, p. 5.

31. Office of the Under Secretary of Defense for Acquisition and Technology, *Defense Science Board Task Force on Outsourcing*, p. 54; the DSB cites as an example a decision by the Defense Logistics Agency to rely on the private sector entirely for the provision of medical supplies. That example, however, is on a much smaller scale than that which the DSB recommends.

32. See Office of Management and Budget, *Revised Supplemental Handbook*, p. iii.

33. Letter of May 1, 1997, from John Koskinen, Deputy Director for Management, OMB, to John N. Sturdivant, National President, American Federation of Government Employees.

tract management of financial services devolved to the services or individual commands, however, DoD would probably lose any benefits from standardization and consolidation.

The revised circular also permits an agency to contract services out without doing a cost comparison if "fair and reasonable prices" can be obtained through private-sector competition and if federal employees are placed in other, comparable jobs.[34] That new option has not yet been exercised. Until those procedural issues are resolved, it will be difficult to know whether widespread privatization could be carried out.

Even assuming that the regulatory and procedural issues could be resolved, DoD would be likely to face significant opposition to such a policy because of concerns about the equity of turning work over to the private sector without first allowing the government workforce to compete. And, of course, policymakers are worried about the economic effects of eliminating government jobs.[35] Defenders of the A-76 process would argue that despite its drawbacks, it is the best available procedure for comparing the costs of public and private providers. Moreover, they would suggest that assuming that the private sector would be more efficient without first conducting a competition is neither equitable nor justified by the history of A-76 competitions. Government entities have won about one-half of the competitions.[36] Critics of the A-76 process suggest that cost comparisons do not accurately ascertain costs incurred by the private sector but not by government providers (for example, taxes and return on capital).[37]

In addition, the Department of Defense could argue that private-sector performance is more efficient in some areas and that minimizing DoD's role in providing support services would benefit national security by reducing the size of the support infrastructure and enabling DoD to concentrate its efforts on its wartime mission. Furthermore, as with base closures, the effect on communities of losing government jobs depends on the concentration of jobs and the availability of alternative employment.

Policymakers fear that turning work over to private companies could jeopardize the delivery of support services if performance was poor or could increase the potential for fraud and abuse.[38] That fear reflects a problem faced by both DoD and private companies that outsource: it is difficult to specify workload and performance standards and monitor performance accurately. Using an internal workforce, government managers can clarify and adjust requirements periodically without incurring penalties. Defining and specifying requirements in advance is more difficult, particularly if the government was to enter into long-term contracts, as many advocates of privatization recommend. Poor definition of requirements could create problems. Extensive privatization of support functions would clearly demand a dramatic shift in the role of government personnel from management of an internal workforce to oversight of private providers and could well necessitate additional training or the hiring of people with a different mix of skills.

Cut Infrastructure Costs by Closing Bases

Consolidation of weapon systems and combat support roles and privatization of other support activities could make it easier to close bases. Former Secretary of Defense William Perry acknowledged that the size of DoD's infrastructure will still be excessive even after the latest round of base closures is completed in 2001. DoD recently proposed two additional rounds of base closures as part of its Quadrennial Defense Review: the first in 1999 and the second in 2001. The services currently spend $14 billion a year to provide the support services for maintaining about 1.5 billion square feet of buildings on military bases and facilities.

34. Office of Management and Budget, *Revised Supplemental Handbook*, p. 4.

35. For a full discussion of these and other concerns, see Frank Camm, *Expanding Private Production of Defense Services* (report to the Commission on Roles and Missions of the Armed Forces by RAND, Santa Monica, Calif., 1996), pp. 9-24.

36. See Marcus, *Analysis of the Navy's Commercial Activities Program*, p. 5.

37. See Congressional Budget Office, *Public and Private Roles in Maintaining Military Equipment at the Depot Level*. The latest revision of the A-76 handbook requires agencies to include the cost of capital for assets purchased within the past two years.

38. See Camm, *Expanding Private Production*, pp. 13-14; and testimony of Donald F. Kettl, March 7, 1995.

In order to restore the ratio between floor space and active-duty military personnel that existed before the drawdown, DoD would have to eliminate an additional 200 million square feet of building space, or an additional 14 percent of the total real estate currently held or managed by the services in the United States and overseas. If DoD was able to reduce overseas bases by an additional 45 percent commensurate with the reduction in the number of military personnel stationed overseas, floor space on bases in the United States would have to be reduced by about 70 million square feet.[39]

On the basis of previous rounds of base closures, that magnitude of reduction would require one additional round. If DoD was unable to reduce overseas bases in proportion to the 60 percent reduction in its overseas population since 1989, however, it would have to rely more heavily on the base closure process, and two more rounds would probably be needed. At the other extreme, if no additional overseas facilities were closed, DoD could require about three more rounds of base closures.

39. Includes all buildings except family housing units on the bases managed by the active-duty forces.

By holding two additional base closure rounds in the next three years, DoD could achieve O&M savings of about $700 million by 2004 and an additional $700 million by 2006 when both rounds would be complete, based on DoD's estimates of savings from previous base closures. If new rounds were initiated in 1998 and 2000, by 2002 DoD would achieve O&M savings of more than $500 million. On the basis of DoD's estimates, there could be significant savings of more than $800 million in the total defense budget by 2003.

Although base closures are politically unpopular, savings are likely to be substantial in the long run. Moreover, if further base closures are not undertaken, the backlog of facilities maintenance faced by the services may continue to grow, creating considerable pressure to add funding, provide base support services more efficiently, or adopt lower standards of maintenance for the entire infrastructure. As long as the services are responsible for an excess number of bases, support spending for them may siphon funds from other O&M areas that could affect military readiness or require cuts in other areas of defense spending to meet DoD's budgetary targets.

Appendixes

Appendix A

Adjusting Operation and Maintenance Spending Between 1981 and 1996

Between 1981 and 1996, the Department of Defense (DoD) made a number of adjustments in the funding sources of particular types of operation and maintenance (O&M) support, shifting spending between O&M and other appropriations and among different categories of operation and maintenance (see Table A-1). Analysis of O&M spending has been hampered by those changes in financing over the years. In order to determine cost trends accurately, the Congressional Budget Office (CBO) standardized spending for operation and maintenance in earlier years to match the financing conventions of the 1996 biennial President's budget request.

CBO included those adjustments in the budget categories that DoD currently uses to present its spending on operation and maintenance to the Congress (see Appendix B). DoD adopted the new categories for operation and maintenance spending—known by the shorthand O-1—in 1994. The database extends from 1981 to 1997 and reflects the financing conventions in the biennial 1996 President's budget.

Table A-1.
Standardizing Operation and Maintenance Spending Between 1981 and 1996

Type of O&M Support	Adjustment	Description
	Transferred into O&M	
Replenishment Spares	From Procurement	Since 1985 in the Navy and since 1991 in the Army and Air Force, the cost of buying replacement spare parts has been charged to O&M users (customers) through a revolving fund to increase cost-consciousness on the part of users.
Subsistence-in-Kind	From Military Personnel	The cost of providing rations during training exercises was included as an O&M cost in the 1996 budget.[a]
Military Personnel Providing Airlift Services	From Military Personnel	From 1992 to 1995, DoD counted the cost of military personnel assigned to the airlift mission as an O&M cost. In 1996, DoD discontinued that policy.
	Transferred out of O&M	
Interim Contractor Support	To Procurement	Initial support of weapon systems is now considered part of the cost of buying new systems.
First-Destination Transportation	To Procurement	Initial delivery of supplies and weapon systems is now considered part of the investment cost.
Installation of Modifications	To Procurement	The labor cost of installing parts to upgrade or correct deficiencies is now considered part of the investment cost of modifying weapon systems; the cost of the parts, known as "modification kits," is already funded in procurement.
Space Launch Services	To Procurement	Launching space shuttles is now considered part of the cost of buying satellites.
	Intra-O&M Transfers	
Drug Interdiction	To Defensewide Account	Support of counterdrug activities is appropriated to a central account but transferred to the services during budget execution.
Defense Environmental Restoration Account	To Defensewide Account	Cleanup of contaminated military bases is appropriated to a central account but executed by the services.

(Continued)

Table A-1.
Continued

Type of O&M Support	Adjustment	Description
	Intra-O&M Transfers (Continued)	
Defense Health Program	To Defensewide Account	Starting in 1992, medical programs of the services were funded centrally.
Defense Commissary Agency	Deleted From Services' O&M Accounts	Starting in 1992, commissaries were managed by a central agency, and the subsidy for operations was appropriated to revolving funds.
Special Operations Command	To Special Operations Accounts	Starting in 1991, a separate command was established to manage training and support of special operations formerly handled by the services.
Installation of Depot-Level Reparables	To Customers Within the Services' O&M Accounts	Starting in 1985 in the Navy and in 1991 in the Army and Air Force, the cost of installing parts in weapon systems was "charged" to users (customers) rather than being centrally funded in O&M.
Management of Consumable Parts	To Customers Within Services' O&M Accounts	Starting in 1991, part of the cost of managing the inventory of consumable parts was charged to users (customers) rather than being centrally funded in O&M.
Second-Destination Transportation	To Customers Within Services' O&M Accounts	Starting in 1992, the cost of delivering parts from warehouses to their final destination was charged to users (customers) rather than being centrally funded in O&M.
Stock Fund/Industrial Fund Pricing Adjustments	To Customer of Revolving Funds	Annual adjustments for losses or gains in revolving accounts from previous years were allocated to users (customers) rather than being centrally funded in O&M.
Foreign Currency Fluctuations	Deleted from Services' O&M Accounts	CBO excluded the cost of changes in foreign currency in relation to the U.S. dollar from operating costs.
Contract Management	To Defense Logistics Agency	In 1990, most contract management functions were consolidated under the Defense Contract Management Command within the Defense Logistics Agency.

SOURCE: Congressional Budget Office based on information provided by the Department of Defense.

NOTE: O&M = operation and maintenance; DoD = Department of Defense.

a. In the 1997 budget, DoD transferred subsistence-in-kind back to the military personnel appropriation.

Appendix B

Classifying Operation and Maintenance Activities According to the New Operation and Maintenance (O-1) Structure Adopted by DoD

The list in Box B-1 classifies operation and maintenance tasks according to the major budget activities, activity groups, and subactivity groups first adopted by the Department of Defense (DoD) in 1994 in response to guidelines from the Congress's appropriations committees. Those categories—presented in a budget document called an O-1 (short for Operation and Maintenance-1)—are made up of groupings of program elements (PEs) that identify the spending associated with particular elements such as F-16 aircraft squadrons.[1] At the request of the Congressional Budget Office (CBO), the Department of Defense assembled a database that distributed PEs according to those budget categories between 1981 and 1999. CBO then adjusted the database to reflect changes in financing conventions over the years (see Appendix A).

In the case of the Navy, however, the composition of individual program elements varies widely from year to year, making it difficult, if not impossible, to create a consistent historical database as one would for the other services. Instead, CBO relied on the Capabilities Resource Allocation Display, a Navy database that groups functions and support activities more consistently over time. CBO then adjusted those groupings for changes in financing and distributed them into O-1 categories.

The list differs from the categories used by DoD because CBO standardized them across the services. For example, CBO used the category "Combat Forces" for "Land Forces" in the Army, "Air Operations" in the Air Force, and "Ship and Air Operations" in the Navy. CBO also treated base support as a separate major budget activity rather than allocating it to each mission or function. CBO took that approach for the sake of comparing spending with indicators of workload and because it is not possible to distribute base support spending historically by mission.

1. The Congress receives similar budget documents for procurement and research and development accounts, known as "P-1s" and R-1s," respectively; hence the name O-1.

Box B-1.
Department of Defense O-1 Budget Categories, as Standardized by the Congressional Budget Office

- Operating Forces
  - Combat forces
    - Combat forces (direct)
  - Combat operations support
    - Combat support activities
    - Tactical support
    - Force-related training
    - Combat communications
    - Headquarters
    - Global command, control, and communications/early warning
    - Space operations
    - Space operations support
  - Depot maintenance
- Mobilization
  - Mobility operations
  - Industrial preparedness/war reserves
- Training and Recruiting
  - Accession training
    - Officer acquisition
    - Recruit training
    - Reserve Officer Training Corps
  - Basic skill and advanced training
    - Specialized skill training
    - Flight training
    - Professional development education
    - Training support
  - Recruiting and other training and education
    - Recruiting and advertising
    - Examining
    - Off-duty and voluntary education
    - Civilian education and training
    - Junior Reserve Officer Training Corps
- Administrative and Servicewide Activities
  - Security programs
  - Logistics operations
    - Servicewide transportation
    - Logistics and technical support
  - Servicewide support
    - Administration
    - Servicewide communications
    - Military and civilian manpower management
    - Other personnel support
    - Other service support/support of other nations
- Base Support
  - Base operations
  - Support/real property maintenance
  - Environmental programs
  - Other[a]

SOURCE: Congressional Budget Office based on information from the Department of Defense.
NOTE: O-1 is Department of Defense shorthand for its operation and maintenance budget categories.
a. Includes family support programs and audiovisual activities.

Appendix C

Spending in the Services by Operation and Maintenance (O-1) Budget Categories

Overall, the allocation of operation and maintenance (O&M) funding among major budget activities has been fairly stable for the services (see Table C-1). The totals below include active-duty O&M spending only.

Each of the services, however, has allocated different amounts to particular budget categories (see Table C-2). Moreover, the rates of change in the 1980s and 1990s varied widely among major budget categories and the services (see Table C-3).

The results of those differences among the services are reflected in changes in the shares of total operation and maintenance funding dedicated to particular missions and functions (see Table C-4). In the Navy, the share of its O&M funding dedicated to operating forces has declined significantly since 1981, from 56 percent to 47 percent, and the amount allotted to infrastructure support has grown. In the Army, the reverse is true: more of its resources are now devoted to operating forces and less to infrastructure. Funding shares within the Air force have changed little over time.

Table C-1.
Mission- and Infrastructure-Related Spending as a Share of the Services' Total Spending for Operation and Maintenance (In percent)

Budget Activity	1981	1989	1996
Mission-Related Spending			
Operating forces	42.5	43.1	40.1
Mobilization	3.7	3.7	6.2
Subtotal	46.2	46.8	46.3
Infrastructure-Related Spending			
Training and recruiting	5.5	6.4	6.5
Administrative and servicewide support	21.3	21.0	22.8
Base support	27.0	25.8	24.4
Subtotal	53.8	53.2	53.7
Total	100.0	100.0	100.0
Memorandum:			
Operation and Maintenance Spending (Billions of 1996 dollars)	68.1	78.7	58.5

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

NOTE: Spending is for active-duty forces only.

Table C-2.
Spending for Operation and Maintenance in the Services by O-1 Budget Category (In billions of 1996 dollars)

Budget Activity	1981	1989	1996
	Army		
Operating Forces	5.5	8.5	5.7
Mobilization	0.2	0.1	0.7
Training and Recruiting	1.8	2.3	1.6
Administrative and Servicewide Support	5.1	5.8	4.4
Base Support	7.3	8.0	5.3
Subtotal	19.9	24.8	17.7
	Navy		
Operating Forces	14.8	14.1	9.9
Mobilization	0.3	0.9	1.0
Training and Recruiting	0.8	1.4	1.0
Administrative and Servicewide Support	6.1	6.6	5.6
Base Support	4.3	4.8	3.4
Subtotal	26.2	27.9	20.8
	Marine Corps[a]		
Operating Forces	0.5	0.6	0.6
Mobilization	0.1	0.1	0.1
Training and Recruiting	0.1	0.2	0.2
Administrative and Servicewide Support	0.2	0.3	0.3
Base Support	0.9	1.1	0.9
Subtotal	1.8	2.3	2.1
	Air Force		
Operating Forces	8.2	10.6	7.2
Mobilization	1.9	1.8	1.8
Training and Recruiting	1.1	1.1	1.0
Administrative and Servicewide Support	3.1	3.8	3.1
Base Support	5.9	6.3	4.7
Subtotal	20.2	23.7	17.9
	All Services		
Operating Forces	29.0	33.9	23.5
Mobilization	2.5	2.9	3.6
Training and Recruiting	3.8	5.1	3.8
Administrative and Servicewide Support	14.5	16.5	13.3
Base Support	18.4	20.3	14.2
Total	68.1	78.7	58.5

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

NOTE: Spending is for active-duty forces only; O-1 is Department of Defense shorthand for its budget categories for operation and maintenance.

a. The Congressional Budget Office did not analyze Marine Corps funding separately because of the difficulty of obtaining data on full costs; the Navy funds some Marine Corps expenses (for example, aviation spare parts). CBO provides those data for the benefit of other analysts.

Table C-3.
Changes in Spending for Operation and Maintenance in the Services by O-1 Budget Category

Budget Activity	Percentage Change Between 1981 and 1989	Percentage Change Between 1989 and 1996	Percentage Change Between 1981 and 1996
	Army		
Operating Forces	56	-33	5
Mobilization	-32	398	238
Training and Recruiting	30	-29	-8
Administrative and Servicewide Support	15	-25	-14
Base Support	10	-35	-29
All O&M Spending	25	-29	-11
	Navy		
Operating Forces	-5	-30	-33
Mobilization	235	10	269
Training and Recruiting	73	-29	22
Administrative and Servicewide Support	8	-16	-19
Base Support	14	-31	-21
All O&M Spending	6	-26	-21
	Marine Corps[a]		
Operating Forces	26	1	27
Mobilization	26	-12	12
Training and Recruiting	59	-13	38
Administrative and Servicewide Support	23	13	40
Base Support	23	-17	3
All O&M Spending	27	-8	17
	Air Force		
Operating Forces	30	-32	-12
Mobilization	-10	4	-6
Training and Recruiting	7	-11	-5
Administrative and Servicewide Support	23	-19	0
Base Support	7	-25	-20
All O&M Spending	17	-24	-11
	All Services		
Operating Forces	17	-31	-19
Mobilization	17	24	45
Training and Recruiting	34	-24	1
Administration and Servicewide Support	14	-19	-8
Base Support	11	-30	-23
All O&M Spending	16	-26	-14

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

NOTES: Spending is for active-duty forces only; O-1 is Department of Defense shorthand for its budget categories for operation and maintenance.

O&M = operation and maintenance.

a. The Congressional Budget Office did not analyze Marine Corps funding separately because of the difficulty of learning full costs; the Navy funds some Marine Corps expenses (for example, aviation spare parts). CBO provides those data for the benefit of other analysts.

Table C-4.
Distribution of Spending for Operation and Maintenance in the Services by O-1 Budget Category (In percent)

Budget Activity	1981	1989	1996
	Army		
Operating Forces	28	34	32
Mobilization	1	1	4
Training and Recruiting	9	9	9
Administrative and Servicewide Support	25	23	25
Base Support	37	32	30
Total	100	100	100
	Navy		
Operating Forces	56	51	47
Mobilization	1	3	5
Training and Recruiting	3	5	5
Administrative and Servicewide Support	23	24	27
Base Support	16	17	16
Total	100	100	100
	Marine Corps		
Operating Forces	28	28	30
Mobilization	4	4	4
Training and Recruiting	8	10	9
Administrative and Servicewide Support	11	11	14
Base Support	49	48	43
Total	100	100	100
	Air Force		
Operating Forces	40	45	40
Mobilization	10	7	10
Training and Recruiting	5	5	6
Administrative and Servicewide Support	15	16	17
Base Support	29	27	26
Total	100	100	100
	All Services		
Operating Forces	43	43	40
Mobilization	4	4	6
Training and Recruiting	6	6	7
Administrative and Servicewide Support	21	21	23
Base Support	27	26	24
Total	100	100	100

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

NOTE: Spending is for active-duty forces only; O-1 is Department of Defense shorthand for its budget categories for operation and maintenance.

Appendix D

Estimating Future Cuts in Force Structure

The Congressional Budget Office (CBO) estimated the size of potential cuts in force structure that would be necessary by 2002 to meet a given decrease in operation and maintenance (O&M) resources, based on the behavior of the services during the drawdown between 1989 and 1996. In other words, CBO assumed that each service would reduce the various categories of O&M spending by the same proportion and at the same rate as it did during that period. CBO also assumed that current average spending levels for operating forces and infrastructure support remained at the 1996 levels. For example, operating spending per hour of training was presumed to be the same in 2002 as in 1996. Thus, CBO's method assumed neither more growth in average spending levels nor greater efficiency in delivering support than in the past.

Some analysts might consider CBO's assumption overly optimistic, given long-term increases in O&M support spending levels. Others might argue that current spending levels are unusually high because some support costs may still be adjusting to the drawdown, and future support costs could therefore be lower than current levels. Because CBO has no way of knowing how future support costs may change, extrapolating from the present appeared to be the most reasonable approach.

The first step in estimating the size of potential cuts in force structure was to distribute the total amount of the potential cut—$11 billion—among the services. (Because spending by reserve forces remained the same and spending on defensewide O&M grew rather than declined during the drawdown, CBO did not assume any reductions in that spending.) CBO distributed the cut among the services according to each service's share of spending on active-duty O&M in 1996—30 percent for the Army, 35 percent for the Navy, 31 percent for the Air Force, and 4 percent for the Marine Corps.

CBO assumed that each major operation and maintenance (O-1) budget category within each service would be cut in the same fashion that they were between 1989 and 1996. CBO then estimated how much training would have to be cut to reach the allotted decrease in operating spending, based on the average spending per hour or mile of training in 1996. That cut in training levels was assumed to require a proportional decrease in force levels. For example, a decrease of 20 percent in flying hours would mean a 20 percent cut in the number of aircraft. That assumption preserves current standards for operating tempo in order to protect readiness.