BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

The Defense Budget: A Look At Budgetary Resources, Accomplishments, And Problems

Growth of the defense budget continues at an unprecedented pace. The $240 billion appropriated for fiscal year 1983 is $96 billion, or 68 percent, larger than the 1980 defense budget. GAO believes that the services are generally spending as they planned but that the budget can be improved by building in more accountability. For example:

--Requests for increased funding should be related to measurable increases in military capability.

--Programs should be coordinated as closely as possible so that supportability does not become a problem.

--Future budget requests should be based on prior-year achievements or shortfalls in attaining program goals and objectives.

GAO/PLRD-83-62
APRIL 27, 1983

Request for copies of GAO reports should be sent to:

U.S. General Accounting Office
Document Handling and Information
Services Facility
P.O. Box 6015
Gaithersburg, Md. 20760

Telephone (202) 275-6241

The first five copies of individual reports are free of charge. Additional copies of bound audit reports are $3.25 each. Additional copies of unbound report (i.e., letter reports) and most other publications are $1.00 each. There will be a 25% discount on all orders for 100 or more copies mailed to a single address. Sales orders must be prepaid on a cash, check, or money order basis. Check should be made out to the "Superintendent of Documents".

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-206768

To the President of the Senate and the
Speaker of the House of Representatives

This report discusses the Department of Defense (DOD) budget--how it is planned and how resources are expended. It also discusses budgetary problems which make it difficult to link budget resources and program accomplishments. The report contains questions that congressional authorizing and appropriations committees may want to ask when assessing DOD budget requests and includes recommendations to require accountability by DOD in terms of increased military capability for increased resources.

We discussed our observations with DOD officials, and incorporated their comments where appropriate.

We are sending copies of this report to the Chairmen, House and Senate Committees on Armed Services, on Appropriations, and on the Budget; the Senate Committee on Governmental Affairs, the House Committee on Government Operations, the Director, Office of Management and Budget; and the Secretary of Defense.

Charles A. Bowsher
Comptroller General
of the United States

EXECUTIVE SUMMARY

In the last 20 years, the 4-year period 1980-83--in which the Department of Defense (DOD) budget grew from $142.2 billion in 1980 to $240.5 billion in 1983--represents the longest period of sustained growth for DOD's budget. Between fiscal years 1980 and 1983, DOD's budget increased $98.3 billion, or 69 percent. This report discusses portions of the $64.4 billion increase for fiscal years 1982 and 1983, and selected major DOD programs, how the funding requests were estimated and executed, and the differences between them. Finally, it cuts across the planning, budgeting, and execution processes to isolate issues and problems in the system. Our objective was to develop data the Congress could use to gather information and resolve issues within this tridimensional setting. We looked at:

--How the budget plan is put together.

--How the money has been spent.

--How program goals and objectives were achieved.

The increased funding between fiscal years 1980 and 1983 was distributed among various accounts; however, the major increase went to the investment accounts (primarily Procurement and Research, Development, Test, and Evaluation (RDT&E)), Operations and Maintenance (O&M), and Military Personnel, as follows:

Fiscal Year 1983 Increase Over Fiscal Year 1980

Account	Amount (billions)	Major programs funded
O&M	$20.2	Training, base operations, depot maintenance
Procurement	45.0	Weapons, tanks, ships, spare parts, ammunition, etc.
RDT&E	9.3	Basic research, applied research, development research, and testing and evaluation
Military Personnel	14.2	Military personnel, travel, retired pay, and legislated pay increases

DOD emphasized, as it said it would, readiness and sustainability. We observed large increases in the funding for spares, training, and depot maintenance. DOD continued to invest heavily to modernize the forces, the Navy emphasized shipbuilding programs, the Army emphasized new armored vehicles, and the Air Force budgeted increases for strategic forces. At the same time, military pay was increased to recruit and retain personnel with critical skills. Not unexpected, with huge funding increases over such a short time, we found problems that cross the various appropriation accounts and prevent maximum return for the defense dollar. These include some of the same problems we reported on last year.

In April 1982, we reported on the increases in defense funding between fiscal years 1980-82. This report assesses the execution of selected parts of the fiscal year 1982 budget along with preliminary data for fiscal year 1983.

SOME PROBLEMS IDENTIFIED LAST YEAR REMAIN UNRESOLVED

Our previous report recommended ways for the Secretary of Defense to better plan and spend defense dollars. The following paragraphs summarize our previous findings, progress DOD has made, and our most current observations.

Stabilizing programs is still a problem

Last year, we reported that some programs were underfunded, costs were increasing, and modernization was being delayed. As a result, DOD was not achieving the program stability required for an orderly acquisition process.

More than $54 billion has been added for research and procurement since fiscal year 1980. Faced with a need to cut costs to ultimately improve stability of higher priority programs, DOD claims RDT&E and procurement requirements were decreased during fiscal years 1982 and 1983 by about $2.2 billion. However, these savings amount to less than 1 percent in 1982 and about 1.5 percent in 1983. The following example shows how program costs and schedules continue to change.

--We reviewed selected acquisition reports dated December 1981 and December 1982 and found that of the 41 programs we reviewed all experienced some change in total program costs ranging from a decrease of more than 50 percent to an increase of more than 37 percent. During this same period 14 program schedules changed, ranging from an acceleration of 1 month to a slippage of 15 months. (See ch. 3.)

Allocating funding increases to improve readiness

Last year we also reported that DOD did not have a well-planned strategy and priority system for applying increased funding to O&M programs. As a result, funds were applied to some programs in excess of what could be absorbed efficiently and effectively.

DOD still does not have a well-planned strategy for applying increased funding to O&M programs. For example, during fiscal year 1982:

--The Army funded more maintenance than its Corpus Christi depot could efficiently handle. As a result, over 4.3 months' work was carried forward to fiscal year 1983. (See ch. 3.)

--The Army could not obligate about $118 million, or about 13 percent, of funds appropriated to modernize the forces as planned in the budget for several reasons. (See ch. 3.)

Directing the use of the money

Last year we stated more specific guidance and criteria for funding real property maintenance projects were needed to ensure prudent spending on readiness and quality of life projects. The following examples show that guidance is still needed to ensure funding of the most essential real property maintenance projects.

--At Fort Lee $2.7 million was received during September 1982 to obligate before the fiscal year ended. The funds were used to fund projects that had not been validated, were not in backlog, and were not in the installation's 1982 or 1983 work plans. (See ch. 3.)

--At Fort Stewart yearend funding amounting to $92,000 was used to construct a bicycle path while what appeared to be more mission-related projects were not funded. (See ch. 3.)

--At Little Creek Naval Amphibious Base, $300,000 was used to resurface tennis courts, widen sidewalks, and paint signs while roof repair projects went unfunded. (See ch. 3.)

Increasing management-by-skill programs

We reported that critical skill categories were not individually managed and that pay and benefit packages were not tailored to attract and keep sufficient people to perform critical jobs. This situation remained throughout fiscal year 1982. For example:

--About 115 or 30 percent of the Army's occupations were either under or over authorized strength and did not meet DOD's goal for skill balance of + or - 5 percent. (See ch. 5.)

--The Army paid bonuses for some skills that were overmanned by more than 5 percent but did not use bonuses as an incentive to recruit in some undermanned skills. (See ch. 5.)

Developing better accountability for program execution

Last year we recommended that the Secretary of Defense monitor the use of O&M funds to ensure they are applied to the programs intended and produce the results expected. This year we tried to identify management information systems used for that purpose but found none. For example,

--The budget execution goals and objectives established for the programs we reviewed are based on consumption requirements, such as how much of the appropriations have been obligated. Instead, resources should be related to achievements and how much the additional expenditures are expected to increase capability. (See ch. 3.)

To date DOD has taken some action concerning last year's recommendations. However, based on this report we believe DOD did not fully address the relevant issues pertaining to our recommendations and that additional action is still needed.

Few improvements can be realized without budget system changes

Following up on last year's report and looking at new budget accounts we found several budget problems keep recurring. These problems cut across the various appropriation accounts in each service and hamper budget execution. These problems involve program accountability, synchronization, effective and efficient funding utilization, and budget estimating.

DOD's efforts to link resources with program accountability

Matching funding levels with desired program outcome is going to be difficult to formulate, but we believe more accountability is essential to validate the growing defense need the administration is projecting through the 1980s. Since 1980 the defense budget has grown by more than two-thirds but DOD has not been able to quantify a baseline capability that the increased funding has provided. Without a baseline--where we are today--DOD cannot effectively plan for tomorrow. During 1982 we evaluated [1]/ DOD's attempt to link funding and readiness. We identified 10 separate studies commissioned by either DOD or the Services and concluded that while individual service purposes may be served, an overall DOD focus was missing and was needed. During our review for this report we identified two Navy studies now underway, one validating tactical and patrol flying hour requirements, the other looking at budgeting and execution procedures for base operations. Both may lead to creation of indicators linking funding levels and program outcome. We were also informed of the Army's new Program Performance Budget Execution Review System, which may also eventually link funding and military capability. It is apparent that DOD and the services are aware of the need to quantify present capability and future funding requirements, and it is also equally evident that the Congress needs better data linking requested funding levels and expected program outcomes to make future budget decisions.

Programs are not always synchronized

Program budgets are prepared and submitted long before they are actually approved. Pricing and other assumptions change and require adjustments. Program requirements and results, or lack thereof, call for other adjustments and programs are not always closely coordinated. For example:

--The Army could not execute its fiscal year 1982 flying hour program as planned because of a shortage of spare parts. In part, this was caused by a failure to fully coordinate leadtimes for spare parts with expanding flying hour requirements. (See ch. 3.)

--The Navy budgeted $10.8 million in fiscal year 1983 to construct a building to provide an operational CG-47 AEGIS cruiser program training facility in January 1986.

---

[1]/"Evaluation of DOD's Readiness Report in Response to Public Law 96-342" (PLRD-82-96, July 19, 1982).

However because the equipment was not funded as scheduled the facility will not be operational before January 1987. (See ch. 4.)

Effective and efficient funding utilization

Funding requests are justified to the Congress for specific purposes; authorizing and appropriations acts identify amounts approved for specific accounts and in some cases programs within the accounts. However, each year millions of dollars are not spent for the purposes budgeted. For example:

--The Army reprogramed $118 million from force modernization to various other programs in fiscal year 1982. (See ch. 3.)

--In fiscal year 1982, the Army reprogramed $17.5 million out of flying hours to purchase spare parts. (See ch. 3.)

--Since fiscal year 1980, more than $1.6 billion has been reprogramed from other programs to real property maintenance. (See ch. 3.)

Some DOD budget estimates inaccurate

We found instances where budget estimates were based on inaccurate data and where the formulas used to calculate funding requirements did not represent the missions being funded. For example:

--As much as 36 percent of the flying done by Navy tactical and patrol squadrons is for nontraining activities; however, the budget is based on training to primary mission readiness. (See ch. 3.)

--The Army budgeted $36 million in fiscal year 1982 of which $20.6 million was not needed in fiscal year 1982 to support the M60A3 tank program in Europe. The excess was budgeted because data used to develop cost estimates were inaccurate. (See ch. 3.)

GAO AND DOD COOPERATE TO STUDY THE BUDGET PROCESS

Many of the crosscutting problems we noted are built into the budget system. In an attempt to improve this area, the Comptroller General and Deputy Secretary of Defense have agreed to conduct a cooperative effort to be completed in July 1983. This effort is designed to improve DOD's primary resource

allocating system, the Planning, Programming & Budgeting System (PPBS). Issues being examined include the level of detailed information required by the process, feedback of information from budget and program execution into future PPBS cycles, and factors that influence the visibility and analysis of cross-service issues for changing PPBS and developing an implementation strategy for the alternatives chosen.

- - - -

Defense budgeting systems will never reach a point of absolute precision but can be improved. Marginal increases in budget authorization, other than to cover inflation, should result in measurable marginal increases in program output and overall military capability. To that end we are recommending changes to existing budget processes that we believe will help correlate spending and defense outcomes. Following are our recommendations to the Congress and DOD.

--Make funding requests as accurate as possible--Some programs are funded at levels that cannot be absorbed for the intended purposes. The overfunding results for a multitude of reasons, including inadequate feedback of prior-year experiences, inaccurate cost factors used to compute requirements, and shortfalls in support systems because of insufficient coordination and unexpected changes. The changes often surface while the budget is being reviewed by the Congress, but the Congress is not always informed in time to affect the budget deliberations. To make DOD's requirements as accurate as possible, we recommend that DOD advise the Congress when requirements change more than 5 percent of what is being requested while a budget is being debated so that decisions can be made with full program knowledge.

--Linking funding and expected increases/decreases in military capability--Many of the same problems that we reported in April 1982 still exist today and are not likely to be resolved unless some significant changes are made in budget review strategy and methodology. We believe change is needed in the way DOD presents and reports its program funding requirements, and budget reviews at all levels should be oriented more toward prior-year achievements and budget year expectations. To provide the Congress better information and a more accurate means of tracking DOD's achievements relative to its funding requests we recommend that the Congress:

1. Require DOD to develop a method of linking anticipated improvements in military capability to increased levels of funding.

2. Pending implementation of a program to link increased funding and program performance expectations the Congress should query DOD on expected and measurable program outcomes during review of each budget request. In our opinion, future budget requests should report on progress made toward attaining prior year expectations.

3. After a program to link increased funding and program performance has been developed, the Congress should consider requiring the Office of Management and Budget to submit a special analysis of the defense requirements using the linking indicators as a basis for the analysis.

QUESTIONS TO HELP THE CONGRESS REVIEW THE DEFENSE BUDGET

While we were reviewing selected DOD program budgets, it became apparent that some basic questions should be asked to ensure an understanding of the desired program outcome. Thus, we have included in this report a series of questions that the Congress may want to ask when reviewing DOD's budget requests. Following are examples of questions for specific programs and several general questions that address the entire scope of the budget that we believe the Congress should ask on a continuing basis.

Real property maintenance and repair programs

1. The services have justified increased funding for real property maintenance to not only enhance readiness but also improve the working and living conditions of service personnel.

   --What guidance and criteria have the services developed to ensure that funds are spent prudently on readiness and quality of life projects?

   --What measurable improvements have resulted from increased real property maintenance funding?

2. Each year millions of dollars migrate from mission-related programs to real property maintenance. Because much of this funding migrates in the last months of the fiscal year, projects of questionable need are sometimes funded in an attempt to spend the money before yearend.

--What have the services done to ensure that only high priority projects are funded with yearend migration?

3. The number of projects that have not been funded in prior years is considered a symptom of inadequate funding. However, our review and those of the services' internal review activities have found that reported backlog levels are inaccurate and thus questionable as an indicator of need for increased funding.

--What has been done to validate the backlog level for this year's budget?

--How much confidence can be placed in the reported backlog?

4. In part, the services have justified increased funding for real property maintenance because of a growing backlog of projects.

--Have the services validated their backlogs to ensure that only essential projects are included?

--What progress have the services made in reducing their backlogs since fiscal year 1980? If a reduction has occurred, is it a result of increased funding or a revalidation of the backlog?

Supporting the investment in Defense

1. Between fiscal years 1980 and 1983, the procurement funding for readiness and sustainability-related items increased by approximately $12 billion.

--What indications does DOD have to show whether readiness and sustainability within the forces are improving?

--What level of procurement funding will be necessary to achieve and maintain the desired levels of readiness and sustainability?

2. Since fiscal year 1980 each service has increased the number of major items budgeted for procurement.

--What is the funding impact on O&M and Procurement accounts?

--What level of funding will be required to support, operate, and maintain today's investment in the future?

3. We analyzed a selected group of major acquisition programs and found the Congress was reviewing an outdated budget request. After budget data were updated, the Congress decided to reduce the proposed fiscal year 1983 appropriations.

   --What actions does DOD plan to ensure that the budget being reviewed represents the programs' most current needs?

Variable housing allowance

1. The variable housing allowance program--authorized in 1981--grew from $616 million in 1981 to $704 million in 1983. At the same time, the housing market in the United States has been volatile and housing costs have declined in some areas recently.

   --In view of the overall state of the housing market, are the services' costs in this area realistic?

   --The current variable housing allowance program lacks adequate verification of costs, comparison with private sector costs, and controls in terms of the quality of housing being subsidized. What are DOD's plans for gathering statistically valid data, comparing data with comparable private sector costs, and controlling the "level" of housing being subsidized?

   --To what extent has DOD considered the alternative cost of building, renting, and subsidizing private market housing costs? Are the family housing construction plans targeted to provide housing in those areas where off-base housing is most expensive?

Matching and coordinating appropriations

1. Since fiscal year 1980, defense appropriations have grown at a sustained rate that has not been matched in the past 20 years. Most of the increases have been for research and development and procurement of new weapon systems, but there have been significant increases in the other appropriations as well. The large increases in investment programs trigger concern across the defense budget. For example (1) O&M funds will be needed at increasingly higher levels to support the new systems, (2) staffing ceilings will have to be adjusted upward to ensure that adequate numbers of troops with the appropriate skills are available to employ the new systems, and (3) military construction must be phased to coincide with fielding of the new equipment.

--To what extent has DOD considered the future impact of the 70-percent growth in the budget since 1980?

--Have changes in support costs been related to the force structure changes made from 1980 through 1983?

--What has been done to establish better links between appropriations to ensure all requirements are synchronized?

2. If history is an accurate barometer, growth of the Defense budget, at present rates, will not be sustained for long.

--Has a fallback strategy been considered?

--What will DOD do if growth in the budget does not keep pace with planned support strategy?

3. The new weapon systems being fielded during the 1980s are sophisticated and are of a high technology and cannot be used effectively without adequate numbers of highly educated and/or skilled people to operate and maintain them. Today's economy has been an acknowledged contributor to DOD achieving its staffing goals, but what happens when the economy turns and more favorable employment opportunities surface in the private sector?

--Will the services be able to compete with a growing private sector to obtain and retain an adequate number of highly educated and skilled people?

--If DOD finds it is losing a significant number of the people it wants to keep and is unable to recruit to meet its goals, what alternatives are being considered--benefits, salaries, bonuses, etc.? What additional costs are anticipated to acquire and keep the force ready?

Measurable achievement

1. During our review of the fiscal year 1982 defense budget several systemic problems were noted that probably can be eliminated with very little effort and cost.

--What effort is being made to relate budget resources and achievement-oriented goals and objectives?

--What effort is being made to improve the program indicators being tracked so that they better relate and measure the use of funds to progress in achieving program goals?

--What effort is being made to ensure budget estimates are as accurate as possible and are synchronized across accounts, thus minimizing the need to annually reprogram millions of dollars?

--What effort is being made to ensure that funds can be and are absorbed in the most efficient manner?

AGENCY COMMENTS

Our draft report was submitted to DOD and the services for review. Comments were received at a combined session chaired by the Director of Operations, Deputy Assistant Secretary of Defense (Program/Budget). The DOD and the services acknowledge that some of the instances we cited indicate imperfections in the system, but disagree with our conclusion that fundamental changes are required. They argue that no budgetary system involving the range and complexity of programs supported in the defense budget could be expected to produce perfect results all of the time. They believe that, on balance, our report should be viewed as indicating a great deal more is right with the system than is wrong. They also do not believe that requirements can be efficiently updated after the President's budget has been submitted; they believe that formulating indicators to link resources and expected program outcomes will be difficult and time consuming, and in their opinion, the executive summary of the report does not recognize past and present efforts to link resources and program performance.

We believe the problems we cite in the report are more than just imperfections. Because the same problems were found in most of the programs we reviewed, we consider them symptomatic of a need to address basic issues in the defense budget system. Contrary to DOD's perception of our findings, we do not argue for perfection. As we point out in our conclusion on page 95 no budget system will ever reach a condition of absolute precision, but all systems can be improved. And therein lies the basic message of our report--the defense budget systems can and must be improved. More feedback and accountability must be built into the system making it more responsive to the needs of DOD planners and managers and the Congress. The system should also be more sensitive to detectable cost-estimating problems and other conditions that may cause programs to lose synchronization and prevent efficient execution.

The DOD also believes our proposal to inform the Congress when requirements change by 5 percent or more while the budget is being debated is not workable for two reasons: (1) the Defense budgeting systems are not responsive enough to identify and report changes to the Congress in a timely manner, and (2) even if they could the Congress could not deal efficiently with changing numbers after congressional milestones have passed; i.e., budget resolutions, authorization hearings, etc. and still meet authorizing and appropriating deadlines. DOD also pointed out that congressional committee staffers are almost in constant dialog with DOD project and budget staffs while the Congress is debating the budget. We agree that a great deal of information is exchanged based on inquiries made by some congressional committee staffs; however, the information is not routinely disseminated to all interested committees of the Congress. Therefore, we are very concerned that more accountability be built into the process.

We believe that the Congress is unaware of many changes involving millions of dollars because at present the services have no incentive to report decreased requirements. We believe the budget process should be dynamic enough to consider and acknowledge significant changes that affect the budget request under consideration. Certainly a multitude of changes occurring over a short period cannot be dealt with practically. However, changes of 5 percent or over should not occur so often that they cannot be relayed to the Congress and worked into the consideration of the budget request.

Because the product of defense is intangible, the DOD doubts that valid indicators can be constructed to link a specific level of funding to a measurable level of performance. The DOD also believe that more than adequate detail is presently made available to the Congress in the form of budget justifications and backup books; in their opinion, the Congress has neither the time nor the need for additional detail data concerning DOD's program funding requirements.

Our analysis of some of DOD's budget justifications supports DOD's contention that a lot of detailed data are provided to the Congress and we agree that more like data may not be desirable. Our point is that a different kind of data--not more--would be beneficial when making budget decisions. For that reason we consider it imperative that the Congress be provided assurances that DOD has validated performance baselines--where we are and how it is measured--for each major program and that desired and quantifiable performance

outcomes drive future resource requirements. We recognize that formulation of the appropriate indicators is going to be difficult and will take some time; we also realize that there are several organizational considerations when deciding where to collect, compile, and report the data. However, we believe it is an essential task that should be undertaken as soon as possible. Perhaps the Office of Management and Budget could assume a more active role in developing and coordinating such a reporting format.

We agree with the DOD that the executive summary should point out some of the past and ongoing efforts on the part of DOD to link resources and program output and have amended the summary accordingly.

C O N T E N T S

ABBREVIATIONS

ALCM	air launched cruise missile
CBO	Congressional Budget Office
DOD	Department of Defense
DSARC	Defense Systems Acquisition Review Council
GAO	General Accounting Office
MILCON	Military Construction
NCOs	noncommissioned officers
O&M	operations and maintenance
OSD	Office of the Secretary of Defense
PPBS	Planning, Programming & Budgeting System
RDT&E	research, development, test and evaluation
SAR	Selected Acquisition Report
TACAIR/ASW	tactical air and antisubmarine warfare
TOA	total obligational authority
USAREUR	U.S. Army, Europe

CHAPTER 1

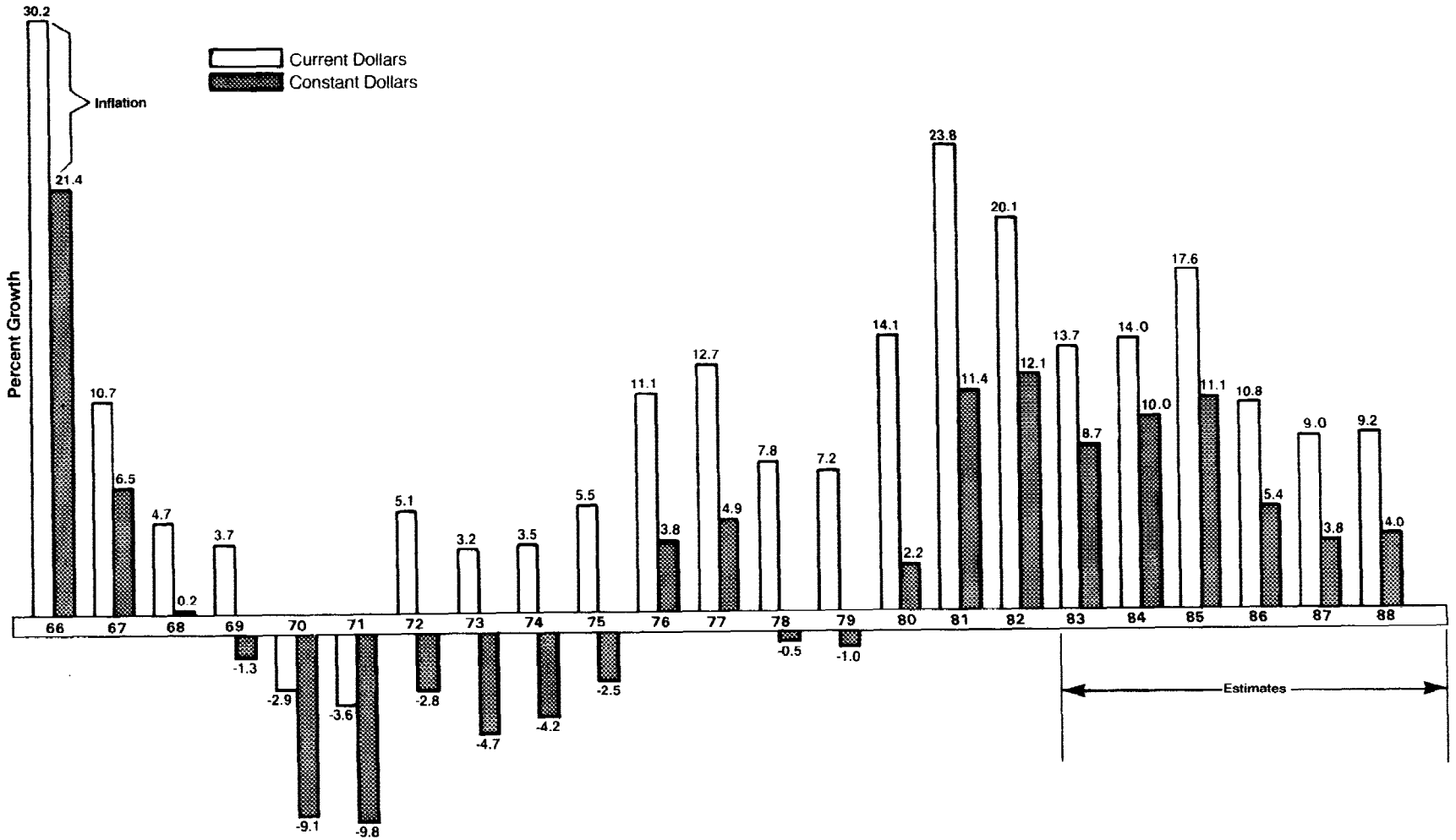
THE DEFENSE BUDGET: RECENT TRENDS AND GOALS

TRENDS IN DEFENSE SPENDING

During the 1970s, the United States focused less attention on peacetime national security needs than on other domestic policy issues. Between 1970 and 1979, the real purchasing power of the defense budget declined by almost 25 percent. The 1979 defense budget was $58 billion less, after deducting for inflation, than it was in 1969. This trend has reversed in the 1980s as more attention was focused on defense programs.

After nearly 10 years of decline, the fiscal year 1980 defense budget proposals led to real increases in total obligational authority (TOA) of 2.2 percent. In fiscal years 1981-83, TOA increased in real terms by $65.7 billion, or 36 percent, over 1980. The shift in TOA during the last two decades for both current and constant dollars is tracked below. Noticeable is the contrast between the buildup in the 1980s and the negative real growth that persisted throughout most of the 1970s. Also noticeable is how less inflation in fiscal year 1982 affected growth in TOA; thus, larger real increases are recorded despite a drop in the growth of TOA in current dollar terms.

Percent Growth In Total Obligational Authority
In Current and Constant Dollar Terms



The increased emphasis on national security can also be seen by comparing recent Five-Year Defense Plans. As illustrated in the table below, planned growth in TOA for fiscal years 1981 and 1982 more than doubled between January 1979 and January 1980. In fact, after inflation, actual growth in TOA in fiscal years 1981 and 1982 was more than five times estimates made in January 1979 for the 1980 Five-Year Defense Plan.

Planned Versus Actual Real Growth in Total Obligational Authority
(Percent Increases in Constant Dollars: Fiscal Year 1984 = 100)

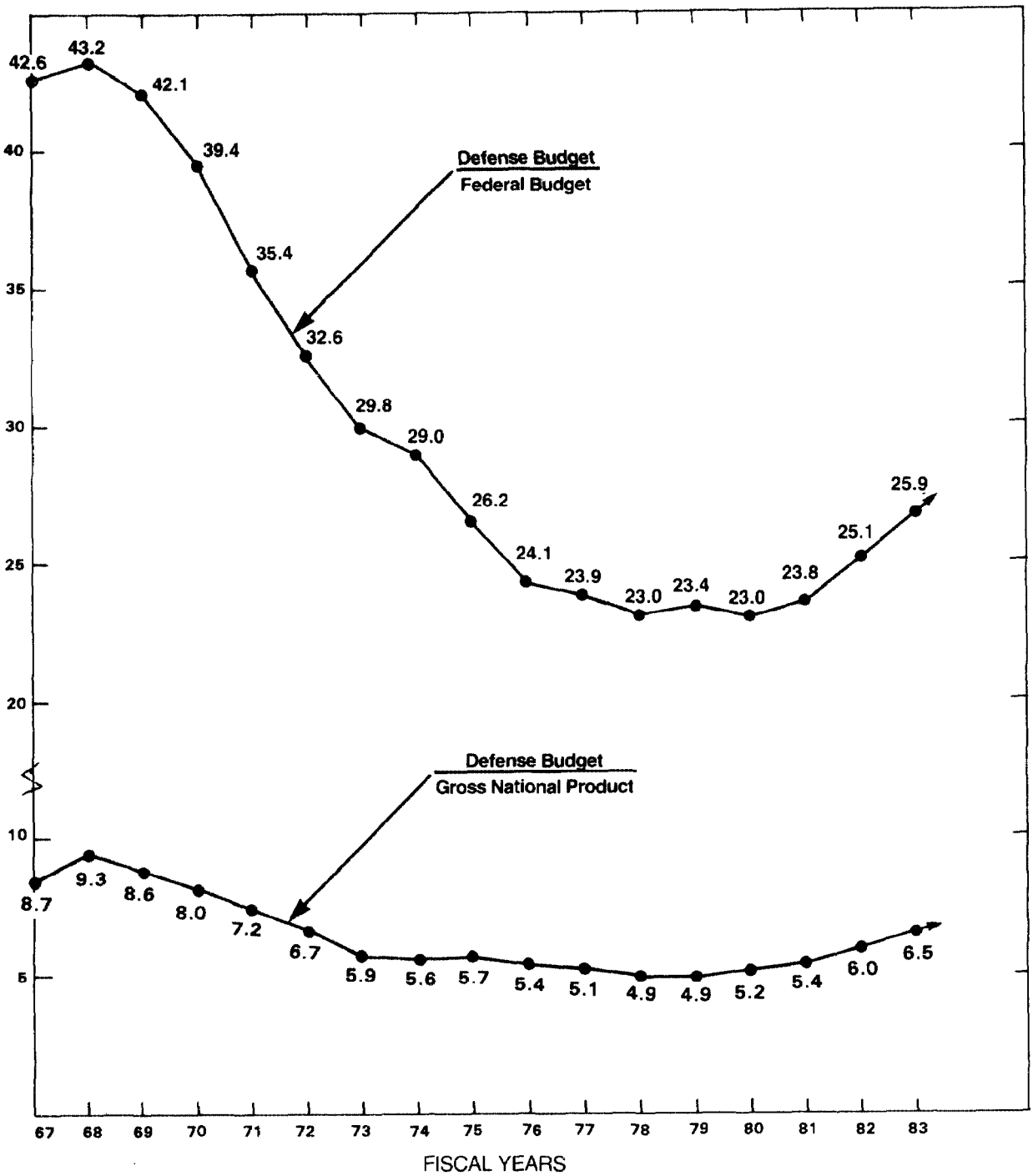
Five-Year Defense Plan	1980	1981	1982	1983	1984	1985	1986	1987	1988
Jan. 1979	1.7	2.2	2.2	3.1	3.1				
Jan. 1980		5.4	4.8	4.4	4.2	4.2			
Jan. 1981		a/7.8	5.3	5.0	5.0	5.0	5.0		
Mar. 1981		a/12.4	14.6	7.3	7.0	7.0	7.0		
Jan. 1982				13.2	4.6	10.4	5.4	3.8	
Jan. 1983					10.0	11.1	5.4	3.8	4.0
Actual growth	2.2	11.4	12.1	b/8.7	n/a	n/a	n/a	n/a	n/a

a/Reestimates.

b/Jan. 1983 reestimates.

As the 1980s approached, sustained growth also occurred in the Department of Defense's (DOD's) share of the total Federal budget and DOD's budget ratio to the gross national product. This new trend follows a 10-year downswing that began in fiscal year 1968, as shown on the following page:

Defense Outlays As a Percent of the Unified Federal Budget and the Gross National Product



There is growing concern that increases in defense spending are not producing commensurate increases in defense capability. One reason DOD has fallen short of planned improvements is a continued understatement of inflation rates. As shown in the chart below, DOD has not always forecast inflation accurately.

Estimated Versus Actual Inflation Rates

Five-Year Defense Plan forecast	Fiscal year									
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Jan. 1979	7.1	6.4	5.8	5.0	4.2	3.5				
Jan. 1980		8.6	8.4	8.6	7.7	7.0	6.5			
Jan. 1981			11.8	9.5	9.1	8.0	7.3	6.6		
Mar. 1981				9.7	7.5	6.5	5.8	5.3		
Jan. 1982					6.9	5.9	5.5	5.1	5.0	
Jan. 1983						3.6	6.1	5.2	5.0	5.0
Actual Rate	7.5	11.3	12.9	8.9	a/4.4	n/a	n/a	n/a	n/a	n/a

a/Jan. 1983 reestimate

Historically, inflation forecasts in Five-Year Defense Plans have been optimistic by predicting less inflation in future years when, in fact, the rate of inflation has increased in most recent years through fiscal year 1981. In fiscal year 1982, the inflation rate dropped and, as a result, defense dollars acquired more real purchasing power. Reaching longer term readiness and modernization goals depends partly on whether the lower inflation rates can be sustained in future years.

DEFENSE PRIORITIES FOR THE 1980s

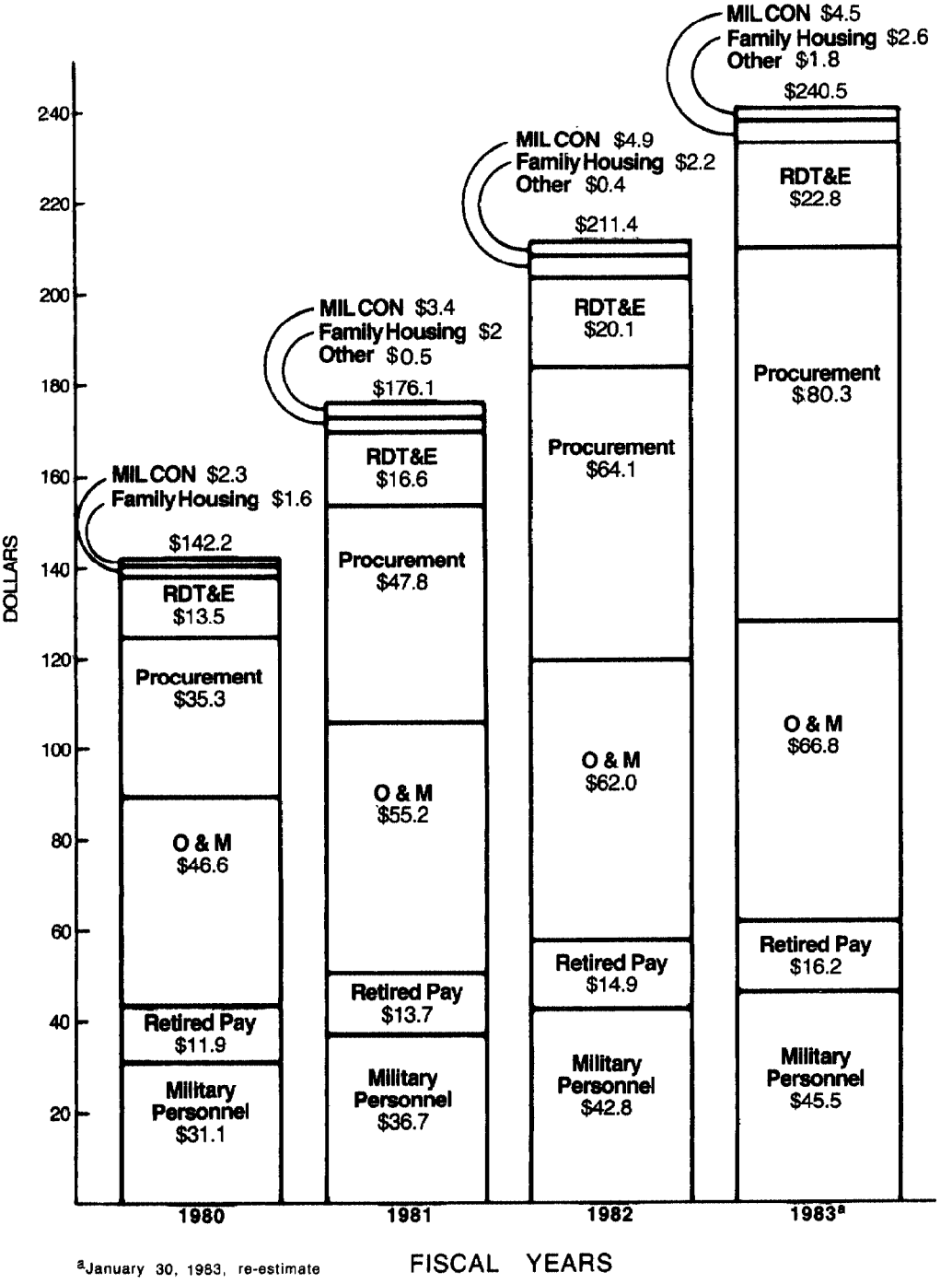
The fiscal year 1981 DOD budget emphasized the need to modernize and strengthen both conventional and nuclear forces. Attention was directed to theater nuclear weapons, the Navy's shipbuilding program, air and sea mobility, and research and development. The fiscal year 1982 DOD budget proposal did not change these priorities, but focused more attention on materiel and personnel readiness problems of conventional forces and nuclear modernization, and several new strategic programs were proposed.

Amendments to the fiscal years 1981 and 1982 budgets also proposed no radical changes in priorities but basically expanded funding, by adding items already on services' priority lists that could not be funded within the original budget constraints. The additional funds permitted expansion of conventional forces, including new ships and reactivation of three older ones; additional aircraft, helicopters, tanks, wheeled combat vehicles, and air defense systems; increased pay; coverage of cost growth in weap-ons programs and fuel; increased capability in the Persian Gulf; and additional war reserve stocks.

The fiscal year 1983 DOD budget increased funding for almost every category of defense spending. It expanded operations and maintenance (O&M) funds to improve the readiness of existing capabilities and accelerated procurement and research, development, test, and evaluation (RDT&E) to modernize the existing force structure.

The illustration below compares TOA in major appropriation categories for fiscal years 1980-83 in current dollars. In the tables that follow, expansion in fiscal years 1981-83 is shown as percentage annual growth in TOA for major appropriation categories, as well as the 3-year growth since fiscal year 1980.

Total Obligational Authority in Major Appropriations Categories for Fiscal Years 1980-83
(Current Dollars in Billions)



[a]January 30, 1983, re-estimate

Percent Growth in Total Obligational Authority in Fiscal Years 1980-83
(Current Dollars)

Appropriations	Percent increase or decrease FYs 1980-81	FYs 1981-82	FYs 1982-83	FYs 1980-83
Military Personnel	18.3	16.6	6.2	46.4
Retired Pay	15.1	8.9	8.1	35.5
O&M	18.5	12.2	7.8	43.4
Procurement	35.3	34.2	27.7	131.9
RDT&E	23.2	20.9	13.4	68.9
Military Construction	51.5	42.6	(8.1)	98.6
Family Housing	30.5	9.4	15.5	65.0
Total growth	23.8	20.1	13.7	69.1

Source: Derived by GAO from DOD's annual reports for fiscal years 1983 and 1984.

Percent Real Growth in Total Obligational Authority in Fiscal Years 1980-83
(Constant Dollars Fiscal Year 1984 = 100)

Appropriations	Percent increase or decrease FYs 1980-81	FYs 1981-82	FYs 1982-83	FYs 1980-83
Military Personnel	1.1	3.5	2.1	6.9
Retired Pay	3.5	2.1	2.2	8.1
O&M	7.5	7.0	3.9	19.6
Procurement	24.1	25.6	20.5	87.9
RDT&E	13.3	13.9	8.3	39.8
Military Contruction	42.0	35.3	(12.5)	68.1
Family Housing	18.0	3.0	11.3	35.4
Total growth	11.4	12.1	8.7	35.8

Source: Derived by GAO from DOD's annual reports for fiscal years 1983 and 1984.

As shown on the previous page, in current dollar terms, defense funding grew by over 69 percent in 3 years. Almost half of this growth was lost to inflation, however, and real growth of 35.8 percent is expected through fiscal year 1983. The constant dollars table also shows that the largest real growth, 12.1 percent, occurred in fiscal year 1982 when inflation declined to 8.9 percent. As shown in fiscal year 1981, TOA increased--in real terms--by only 11.4 percent, despite funding increases of almost 24 percent.

Notice, that in current dollars, procurement appropriations grew 131.9 percent between fiscal years 1980 and 1983 while O&M funds grew by only 43.4 percent (after deducting for inflation, 87.9 and 19.6 percent, respectively). Increases were used to modernize the forces, and some were used to expand force structure and to improve readiness and sustainability. But DOD does not link the increases in procurement and O&M funds (inputs) to the four major areas of military capability which are discussed below.

LINKING MILITARY CAPABILITY TO BUDGET RESOURCES

The defense budget goals set for the early 1980s are expressed by DOD in terms of four pillars of military capability, which are defined below.

--Force structure. The number, size, and composition of the units that constitute the defense forces, such as divisions, ships, and airwings.

--Readiness. The ability of forces, units, weapon systems, or equipment to deliver the outputs for which they were designed and to deploy and employ without unacceptable delays (includes materiel readiness, manpower, facilities, and other support).

--Sustainability. The ability of our forces to continue fighting in the event of a prolonged conventional war (includes replacement equipment, spare parts, ammunition, fuel and other essential consumables, and the manpower required to maintain combat strength in the course of a campaign).

--Modernization. The technical sophistication of forces, units, weapon systems, and equipment (includes new or improved technology and replacement equipment).

The purpose of increased defense funding is to raise our military capability to a level sufficient to meet national objectives. The Congress has long expressed an interest in the

relationship between defense funding and the accomplishment of improved force structure, readiness, sustainability and modernization.

In 1977 the Congress enacted Public Law 95-79 requiring the Department of Defense to submit an annual materiel readiness report describing the effect of its appropriation requests on materiel readiness. We have evaluated this report over the years and improvements have been made. [1]/ DOD recognizes the importance of being able to quantify the additional military capability that accrues from defense resources requested. DOD has also improved coordination with congressional committees, which has resulted in a better understanding of their informational needs. But the Congress continues to lack full visibility of how funding will improve military capability.

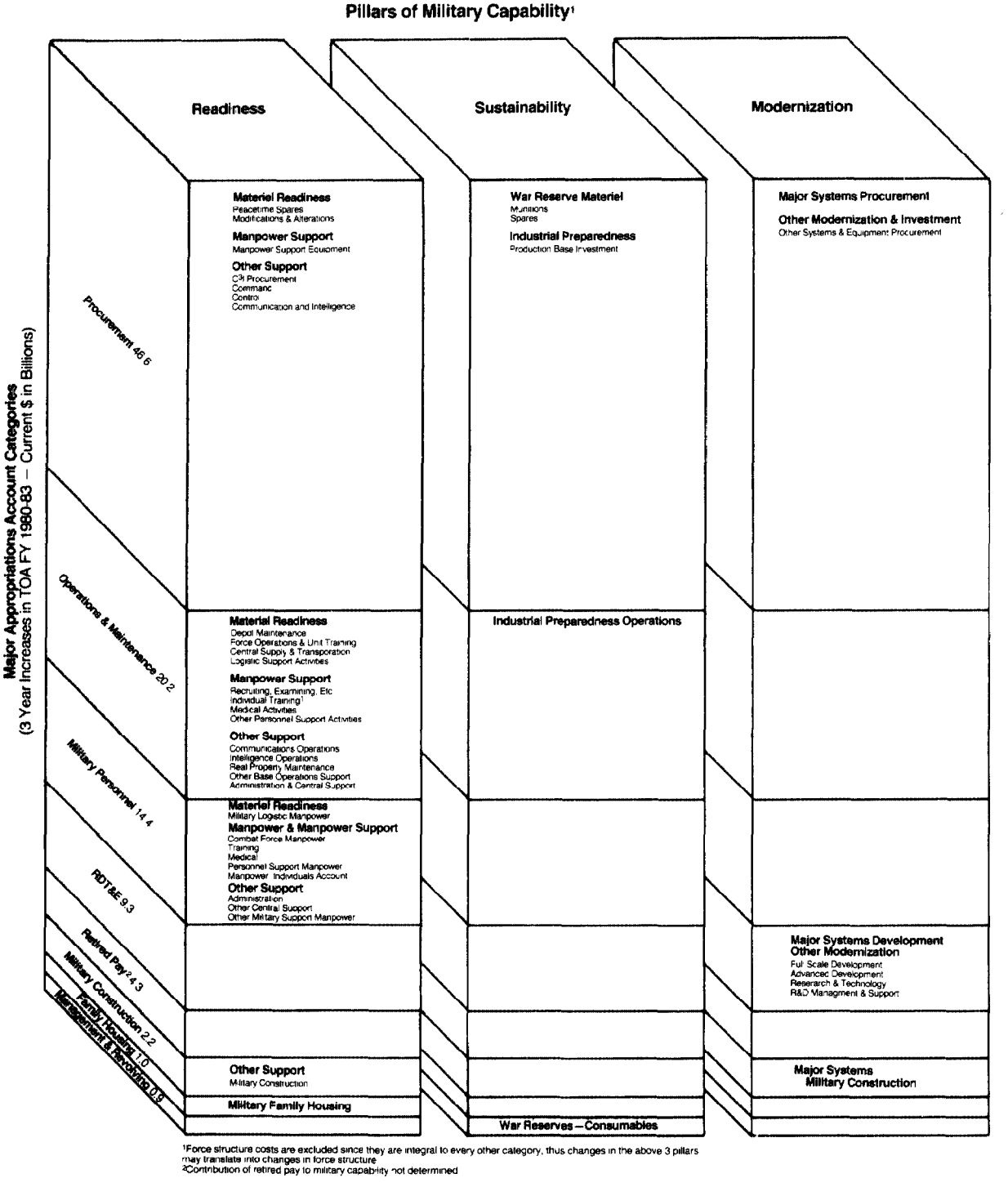
The chart on the following page shows one attempt within DOD to link budget resources and military capability. Resources contributing to three of the four pillars are identified within resource planning categories. Force structure is excluded because it is not viewed as a mutually exclusive category, but one that cuts across all DOD programs. Notice how the procurement budget is split between modernization and materiel and personnel readiness and sustainability needs. Likewise, O&M funds contribute to both readiness and sustainabilty.

---

[1]/"DOD's Materiel Readiness Report to the Congress--Improvements Needed To Better Show the Link Between Funding and Readiness" (LCD-80-5, October 12, 1979).

"Evaluation of DOD's Readiness Report in Response to Public Law 96-342" (GAO/PLRD-82-96, July 19, 1982).

Linking Military Capability to Funding and Planning Structures



[1]Force structure costs are excluded since they are integral to every other category, thus changes in the above 3 pillars may translate into changes in force structure
[2]Contribution of retired pay to military capability not determined

DOD is continuing its efforts to identify expenditures that affect readiness and to develop the funding-to-accomplishment links. Without this information, adequate assessment of accomplishments remains subjective.

This report focuses on three appropriation categories receiving large funding increases in fiscal years 1980-83. Our analysis is presented in terms of funding categories because DOD uses this structure to describe budget goals and to prepare data for the Congress. Within the chapters, we stress the importance of linking budget resources to accomplishments. Chapter 2 discusses last year's recommendations and DOD's actions. O&M is discussed in chapter 3, Procurement in chapter 4, and Military Personnel in chapter 5.

At the conclusion of chapters 3, 4, and 5, we have included a number of program specific questions that congressional committees and subcommittees may wish to ask to gain more indepth knowledge of desired program outcomes and achievements. Chapter 6 lists and discusses the issues and problems that occurred repeatedly in the programs we reviewed. In addition, chapter 6 contains an approach for reviewing defense budget plans and for evaluating how budget resources contribute to program results, and a series of questions structured to gain better understanding of how today's budget decisions may affect tomorrow's defense capability. Further discussion of our scope and methodology is in appendix I. Appendix VII contains all the questions asked in each of the chapters.

CHAPTER 2

CURRENT STATUS OF GAO'S RECOMMENDATIONS ON BUDGET IMPROVEMENTS

Between fiscal years 1980 and 1982, the DOD budget increased by approximately $72 billion in TOA. In view of congressional concern about the increase in defense spending, we set out to determine:

--The major issues DOD wanted to address with increased funds.

--The validity of requirements supporting the increased funding.

--The results to date, in terms of effectiveness and efficiency, and the possible long-term impact.

--The ability of reporting systems to provide management with adequate program visibility and accountability.

In our report "Defense Budget Increases: How Well Are They Planned and Spent?" (PLRD-82-62, Apr. 13, 1982) we observed that DOD directed most of the funding increases to improving readiness and sustainability and improving the quality of life for military personnel. However, we also found a number of areas where improved planning and spending of funding increases were needed and made recommendations to DOD for improvement.

To date DOD has taken some action concerning these recommendations. In its official response to our report, DOD indicated partial concurrence with most of our recommendations. However, we believe DOD did not fully address the relevant issues pertaining to our recommendations and that additional action on the part of DOD is still needed. The following is a summary of the major recommendations, DOD's response, and why we pursued some of the same issues and reviewed programs discussed in our previous report.

Cutting additional low priority programs

We reported the acquisition of weapon systems was underfunded, costs were increasing, and modernization was being delayed. DOD reaffirmed the need to manage weapon system acquisitions more economically and efficiently. DOD cited its entire Management Improvement Program as evidence of its

commitment. In addition, DOD cited its economic production plans for selected major procurement programs, multiyear procurement for some items, and elimination or reduction of marginal programs.

In our current effort we followed up on these issues. We believe resolving the problems mentioned above is essential for program stability and an orderly acquisition process. As a result, we conclude some problems have been addressed but progress is still needed to achieve greater program stability.

In following up last year's effort we observed that:

--Procurement funding has increased significantly (See p. 54).

--Program unit costs are still increasing on 22 of 41 major systems reviewed.

--The modernization effort continues to be at rates greater than proposed under the previous administration. (See p. 59).

--Procurement rates are above rates proposed by the previous administration, but below economic production levels.

In this chapter, we will discuss the problems of increasing costs and inefficient production rates as the other issues are covered in chapter 4.

We analyzed the total program unit costs of 41 major weapon systems reported in the Selected Acquisition Reports (SARs) for the time period December 1981 to December 1982. We found 22 systems which experienced increases in program unit costs and 19 systems which experienced decreases in program unit costs.

In presenting its proposed fiscal year 1983 budget to the Congress, DOD provided details on actions designed to improve economy and efficiency. We analyzed nine of the systems DOD cited as being procured more economically. All but one of these systems are being procured at higher production rates than had been proposed under the previous administration. We found that, for the time period December 1981 to December 1982, three systems had experienced program unit cost growth and the remaining systems reported decreases in unit costs.

In our last report, we had identified the most efficient procurement levels for some of the major systems. We had compared this level with the quantity to be procured in fiscal

year 1982 and concluded that at that time most of the systems were not procured at efficient levels. We do not advocate procuring all systems at the most economically efficient levels, but do believe in clearly identifying what those levels are, so that informed judgments can be made. We again looked at these programs to see whether the added funding along with management economies had enabled DOD to procure these systems at the economic production levels. We then compared the proposed fiscal years 1983 and 1984 procurement quantities and found that all but one system (fighting vehicle system) continued to be procured at less than efficient rates as illustrated in the chart below.

Program	Most efficient production rates	Quantity 1982	Quantity 1983	Quantity 1984
Fighting vehicle system	600	600	600	600
M-1 tank	1,080	700	855	720
Patriot missile	960	176	277	525
Stinger missile	9,600	2,544	2,256	1,508
F-15 aircraft	144	36	39	48
F-16 aircraft	a/240	120	120	120
F-18 aircraft	240	63	84	84
ALCM	480	440	330	-

a/Includes foreign military sales.

In another effort,[1]/ we examined the DOD claimed savings across all programs. As part of this effort, we looked at the savings claimed for reducing and/or eliminating marginal programs. DOD claimed savings for procurement and RDT&E in fiscal year 1982 of $596 million. This represents less than 1 percent of the total fiscal year 1982 combined procurement and RDT&E appropriation. The corresponding figures for fiscal year 1983 are $1,600.7 million, or 1.5 percent.

---

[1]/"Analysis of DOD's Claimed Budgetary Savings Through Management Reforms" (GAO/PLRD-83-61, Apr. 4, 1983).

Allocating funding increases to improve readiness

Last year we reported that DOD did not have a well-planned strategy and priority system for applying increased funding to O&M programs. As a result funds were applied to some programs in excess of what they could absorb efficiently and effectively. DOD's position is that budget procedures within the services enable them to establish priorities, thus available resources can be spent efficiently. DOD contends that changes to its current procedures are not necessary.

While we agree with DOD that it does monitor the expenditure of funds, the thrust of our recommendation was to have DOD relate resources to program results by clearly stating program objectives in advance and monitoring indicators that are tied to progress in meeting those objectives. For further discussion see chapter 6.

Directing the use of the money

In our April 1982 report, we identified several projects funded in each service that, in our opinion, did not contribute to readiness or to cost-effective management. As a result DOD began a joint review with the services of the overall real property maintenance to develop improved guidance and criteria where appropriate. DOD's findings, in initial draft at the time of our review, paralleled ours and concluded that:

--Military departments were funding projects of lesser need over projects with greater need.

--Project priorities are not based on military need.

--Projects are funded based on questionable value judgments and DOD in its oversight role did not identify these instances.

Thus, there is ample evidence that our recommendation should be implemented. Since real property maintenance is considered a high priority program in DOD and funding increased by 48 percent between fiscal year 1980 and fiscal year 1983 we again selected the program for review. We believe the Congress needs better information to determine what the level of funding for real property maintenance should be.

Increasing management-by-skill programs

Last year we took the position that each critical skill category should be managed individually and pay and benefit packages tailored to attract and keep sufficient people to

perform critical jobs. We suggested the Congress may wish to consider having DOD develop a management-by-skill program that would provide the services with more flexibility in dealing with skill imbalances in selected areas. This has been our position over the years but DOD does not agree with the approach.

DOD's position is that in concluding that each skill should be paid and managed individually, we assume that supply is a function of one variable--money. DOD says that we are also assuming that individuals will cross occupational boundaries in direct response to the economic incentive to do so. DOD contends this is not necessarily so as "the occupational movability of the population is constrained by many other factors," such as operational commitments. DOD also believes that all military personnel should be paid on the basis of their primary function which is to serve and fight if necessary and only secondarily on the basis of whatever duties, specialties, or hardship they may have. Thus DOD concludes the basic pay table should be identical for grade and length of service to recognize military experience as well as loyalty for remaining in the service.

We did not program any new work in this area because of our longstanding disagreement with DOD. However, in its report on the fiscal year 1983 DOD Appropriation Bill, the House Appropriations Committee noted shortages of experienced personnel in certain critical occupations, when overages of personnel in other occupations persist. This problem of skill imbalance wastes resources and impairs readiness. The Committee believes the services need to scrutinize their personnel policies, practices, and procedures and adopt a more focused approach to dealing with specific personnel problems unique to each occupation. Management tools available to manpower managers, i.e., bonuses, educational incentives, enlistment terms, conditions of service, training commitments, and others, should be brought to bear on specific occupation shortage or overage problems.

The Committee is not convinced that DOD has exercised a high level of management focus and a selective use of resources on this problem in the past. The Committee therefore directed each service to submit to the Committee, along with other materials supporting the fiscal year 1984 budget, an assessment of its 10 most critical skill shortage occupations and its 10 occupations with the most serious overage problems. The assessment should include: (1) an account of the compensation and benefit measures and management actions taken in the past year to correct the problems in each occupation identified and

(2) a cost-effective plan for addressing the problems in each occupation identified, setting forth the mix of management practices and compensation and benefit measures planned for the budget year.

Developing better accountability over program execution

We reported that DOD should monitor the use of O&M funds to assure they are applied to the programs intended. DOD agreed with our recommendation but it believed an adequate system exists for monitoring execution.

DOD tracks program execution by monitoring obligation of funds against appropriated amounts. For the budget accounts we reviewed, a system is not in place to describe the major tasks that are to be accomplished, what was accomplished, and what was not accomplished and the reasons for not meeting projected schedules. The problem is difficult and the services have taken some steps to address this issue. But because this accomplishment-oriented accountability is missing, DOD and the Congress are not informed on the progress made in major programs financed by O&M accounts.

Since we believe that better accomplishment-oriented accountability is needed, we reviewed selected programs, such as flying hours and real property maintenance, to determine if the original program objectives were accomplished. We wanted to determine the extent that information is fed back on what has been achieved in terms of program accomplishment related to dollars. We again found that this type of feedback and accountability over program execution is missing. See chapters 3 and 6 for further discussion of this.

In our current analysis of DOD's use of funds for selected programs, we reviewed some of the same programs looked at last year. We followed up on issues and problems discussed above for which DOD has not taken corrective actions. Some of these problems are peculiar to specific types of accounts, while others are more general and apply to personnel, O&M, and procurement. The problems and issues are discussed in the following chapters.

CHAPTER 3

OPERATIONS AND MAINTENANCE APPROPRIATIONS: PLANNING AND SPENDING THE FUNDING INCREASES

The O&M appropriations provide the day-to-day funding to fly aircraft, operate ships, and train troops. They also include funds for paying civilians; contracting services for maintenance and repair of equipment and facilities; and paying for fuel, supplies, and repair parts for weapon systems and equipment. In effect, these appropriations bring together a diverse collection of functions and activities necessary for operating and sustaining U.S. forces.

O&M funds comprise about 28 percent of the $240 billion available to DOD in fiscal year 1983. Between fiscal years 1980 and 1983, the O&M appropriations increased by approximately $21 billion--from $46.2 billion to $67.3 billion. As illustrated in the table below, this is approximately a 46-percent increase from fiscal year 1980 to fiscal year 1983.

Operations and Maintenance Budget Authority

Service	FY 1980	FY 1981	FY 1982	FY 1983	Increase FY 1980-82 Amount (billions)	Increase FY 1980-82 %	Increase FY 1980-83 Amount (billions)	Increase FY 1980-83 %
	(billions)							
Air Force:								
Active	$12.40	$14.80	$16.20	$16.90	$ 3.80	31	$ 4.50	36
Reserve	.50	.60	.70	.80	.20	40	.30	60
Guard	1.30	1.50	1.70	1.80	.40	31	.50	38
Army:								
Active	11.00	13.00	15.20	15.80	4.20	38	4.80	44
Reserve	.40	.50	.60	.70	.20	50	.30	75
Guard	.80	1.00	1.10	1.20	.30	38	.40	50
Navy:								
Active	14.80	17.70	19.60	21.10	4.80	32	6.30	43
Reserve	.40	.60	.60	.60	.20	50	.20	50
Marine Corps:								
Active	.80	1.10	1.20	1.50	.40	50	.70	88
Reserve	.02	.03	.04	.05	.02	100	.03	150
Other DOD	3.80	4.80	5.40	6.80	1.60	42	3.00	79
Total	$46.22	$55.63	$62.34	$67.35	$16.12	35	$21.13	46

Although the O&M appropriations have increased each year since fiscal year 1980, the distribution of the dollars has not appreciably changed. As the following table illustrates, each budget activity has retained relatively the same share of the total budget. Thus, no significant shift in priorities (such as a shift between conventional and strategic forces) can be discerned from the distribution of funds. This indicates that resources were targeted toward specific programs within the various budget activities rather than being directed to a particular budget activity.

DOD Operations & Maintenance Appropriations
by Major Budget Activity, Fiscal Years 1980-83
(note a)

Budget activity	FY 1980 Amount	FY 1980 Percent of total	FY 1981 Amount	FY 1981 Percent of total	FY 1982 Amount	FY 1982 Percent of total	FY 1983 Amount	FY 1983 Percent of total
Strategic forces	$ 3,727	8	$ 4,357	8	$ 4,609	7	$ 4,766	7
General purpose forces	13,730	29	16,662	30	19,240	31	20,721	31
Intelligence and communications	1,995	4	2,401	4	2,809	5	3,235	5
Airlift forces	866	2	1,045	2	1,188	2	1,160	2
Reserve and National Guard	3,526	8	4,194	8	3,741	6	5,171	8
Central supply and maintenance	12,495	27	14,202	26	15,116	25	16,101	24
Training, medical, and other personnel activites	5,063	11	6,165	11	7,032	11	7,494	11
Administration and associated activities	1,348	3	1,620	3	1,786	3	1,992	3
Support to other nations	89	.2	115	.2	113	.2	106	.2
Total	42,839		50,761		55,634		60,746	
Other	3,800		4,774		5,617		6,003	
Total	$46,639		$55,535		$61,251		$66,749	

a/Dollar amounts in this table are in millions.

We selected programs for review from the two largest budget activities, general purpose forces and central supply and maintenance, which accounted for 52 percent of the O&M funding increase. The programs within these budget activities are major contributors to operational and materiel readiness of the forces and produce an output that can be measured in terms of achievement and military capability. The programs we selected are profiled in the following table.

	Operations and Maintenance Appropriations					
Programs reviewed	FY 1980 (note a)	FY 1981 (note a)	FY 1982 (note a)	FY 1983 (note b)	Increase FY 1980-83	Percent
	(000,000 omitted)					
Real property maintenance and repair:						
Army	$ 647	$1,015	$1,467	$1,164	$ 517	80
Navy	530	650	747	700	170	32
Air Force	831	1,108	1,307	1,113	282	34
Flying hours:						
Army	172	232	264	269	97	56
Navy tactical air and anti-submarine warfare	808	986	1,054	1,014	206	26
Air Force tactical fighter and weapons	1,116	1,333	1,623	1,683	567	51
Army force modernization: (note c)	27	415	940	1,266	1,239	4,589
Aircraft depot maintenance:						
Army	198	226	288	336	138	70
Navy	1,073	1,478	1,318	1,469	396	37

a/Actual obligations for all programs except Army force modernization.
b/Fiscal year 1983 continuing resolution obligating authority.
c/Appropriated amounts; according to Army officials, actual obligations for force modernization cannot be determined.

The maintenance and repair and the depot maintenance programs were selected because increased funding has been appropriated to help reduce maintenance backlogs. The flying

hour program was selected because it is one of the most costly programs in the O&M appropriation and is directly linked to operational readiness.

The Army's force modernization program was reviewed because it is a comprehensive program that provides support for all the Army's new weapon systems. For each program reviewed, we attempted to answer the following questions.

--How accurately are requirements stated and costed, and how thoroughly are program budgets coordinated with related programs?

--How are the funds used when the budget is executed?

--How well are program goals and expectations achieved, and do the results feed back for future budget decisions?

Our recommendations in this report are limited to what we believe are changes needed to make the budget system more responsive to the congressional budget process. In addition, we have included several questions that authorizing and appropriating subcommittees and committees may want to ask before deciding what level of resources to recommend for congressional approval.

REAL PROPERTY MAINTENANCE AND REPAIR PROGRAMS

To ensure that adequate facilities are available to support the operational forces, the services annually program funds to maintain real property facilities and equipment and to make essential repairs. Between fiscal years 1980 and 1982, almost $6.7 billion was budgeted for maintenance and repair programs, and more than $1.6 billion migrated into the programs during budget execution.

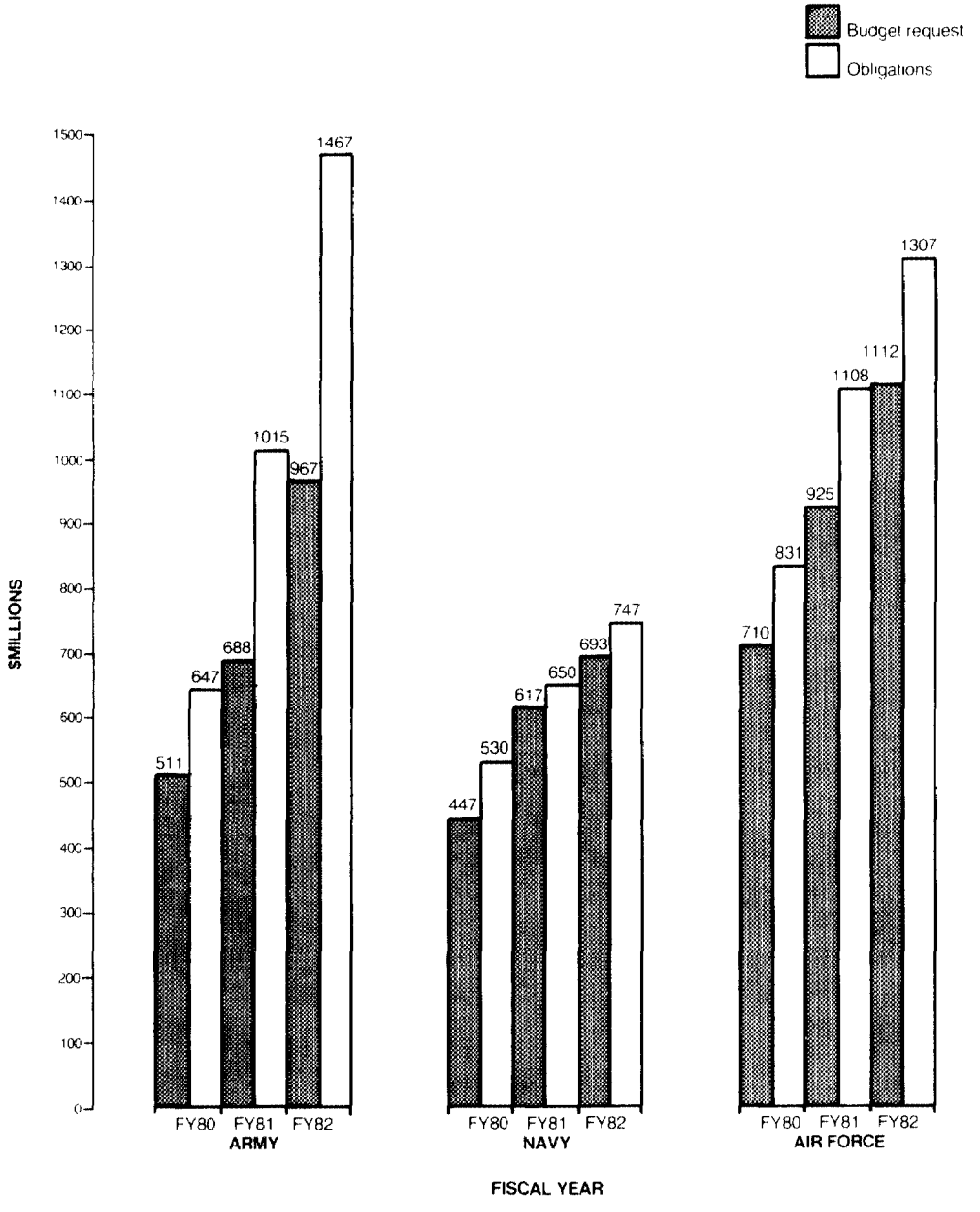
Real property maintenance and repair programs are largely discretionary programs and are difficult to manage because of the services' planning deficiencies and legislative delays which can occur. Furthermore, the budget process does not link funding levels to mission capability.

Program obligations in excess of budgeted requirements

Historically, millions of dollars migrate from mission accounts--such as flying hours and force modernization--to real property maintenance and repair programs. Therefore, actual program obligations frequently exceed the services' budget requests, as shown on the following chart. Part of the difference between the budget request and actual yearend spending is supplemental pay appropriations.

Between fiscal years 1980 and 1982, the budget request increased 66 percent, from $1.7 billion to $2.8 billion. However, funds available for obligation were considerably more; obligations increased 75 percent, from $2 billion to $3.5 billion. As can be seen in the chart, these increases varied among the services. The Navy experienced the smallest amount of fund migration, while the Army experienced the largest. A total of $963 million, or 44 percent of the funds requested, migrated to the Army's real property maintenance and repair program from mission accounts.

Comparison of Maintenance and Repair Program Budget Request & Actual Obligations – All Services Fiscal Years 1980-1982



Funding levels and mission capability

We found no accountability systems linking military capability and rising or falling program funding levels. Budget estimates are often limited to prior-year funding plus anticipated program growth and inflation. Since funding is not linked to intermediate outputs, such as increased proficiency or mission capable weapon systems, or to ultimate outputs, such as increased readiness, there is no way of determining if the services could achieve the same goals with fewer dollars.

Analytical tools, such as achievement indicators, have not been developed to relate resources and readiness, but some effort to solve the problem is underway. For example, a special Navy study group considered ways of improving programing, budgeting, and execution procedures for base operations and concluded:

> "There is no means of relating Base Operations funding to mission requirements or readiness objectives. Budget execution and mission capability feedback to Navy headquarters is inadequate."
>
> "Resource requirement determinators are haphazard due to lack of accepted program/performance indicators."

We believe the other services would come to similar conclusions if they were to study the relationship between military objectives and funds which support base operations.

Better planning and management could improve program execution

The services prepare work plans which define and assign priorities in annual real property maintenance and repair programs; however, the plans do not fully portray the size of the workload or the type of work to be done. The services' internal reviews have concluded, as we have in two previous reports [1/], that maintenance and repair planning and management is not as effective as it should be. For example:

1/"DOD's Real Property Maintenance and Repair Backlog" (LCD-79-314, Aug. 31, 1979).

"Congress Cannot Rely on the Military Services' Reported Real Property Maintenance and Repair Backlog Data" (LCD-81-19, Feb. 2, 1981).

--During January 1982, the Army Audit Agency reported on several installations in the Forces Command, Training and Doctrine Command, and U.S. Army, Europe (USAREUR). It concluded that (1) facility engineers generally gave only token interest to preparing annual work plans, (2) Army management does not know what level of funding is required to accomplish the annual workload or to contain and ultimately reduce the backlog, and (3) the $2.27 billion reported as the Army's fiscal year 1981 backlog was understated, principally because facility inspections were not made.

--An April 1982 Navy Audit Service report on the Navy Training Command's facility management program concluded that (1) annual inspection summaries are prepared primarily to satisfy reporting requirements, not to manage workload, and (2) the command's unfunded backlog is understated by as much as 87 percent, or $79 million.

--The Air Force Audit Agency issued 19 reports on maintenance and repair management at bases subordinate to 6 major commands. Fifteen of the reports, covering bases subordinate to 5 commands, cited inefficient facility inspection programs which resulted in understated maintenance and repair requirements.

Because the services' work plans do not accurately identify requirements or priorities, the highest priority projects are not always funded first. In our April 1982 report on defense budget increases, we identified several funded projects which, in our opinion, contributed little to the services' goals or to cost-effective management. Following up on our observations, the Defense Audit Service made a detailed review of the maintenance and repair program to determine the extent of the problem throughout the military departments. The findings, in initial draft at the time of our review, paralleled ours, and were as follows.

--The militiary departments fund projects of lesser need over projects of greater need.

--Projects are not always prioritized based on military need. Primary considerations are (1) available design and engineering skills, (2) project cost, and (3) command interest.

--Projects are funded based on questionable value judgments, and DOD's oversight is not sufficient to catch the aberrations.

The Defense Audit Service provided the following examples to support its findings.

--The Air Force used fiscal year 1981 funds to rehabilitate officers clubs at four of the seven bases visited and to replace sprinkler systems on golf courses at three bases. The club overhauls ranged in cost from $105,000 to $530,000 and the spinkler systems cost between $50,000 and $390,000. These costs were incurred even though some of the bases' unfunded backlogs included runway repaving and roofing projects.

--The Navy's system of setting priorities differed from base to base, but in each case command interest could circumvent the established system. For example, at one base, the commander had a boathouse repaired and painted only to demolish the building less than 6 months later. At another base, a $290,000 project was funded to repair an historical building used as the commissioned officers open mess, but a mission-essential $314,000 project to repair railroad tracks went unfunded.

--At one Army installation, resurfacing tennis courts and installing swimming pool filters were funded for $443,000 while installation of fire alarms in barracks and clubs, priced at $163,000, was not funded.

We also followed up to determine if the relationship between program priority and funding had changed since our April report. Once again, we found that priority of need was not always the paramount funding consideration. For example, at Fort Hood, we reviewed a priority list of 107 maintenance and repair projects, as well as other base operations requirements, and found that:

--Thirty-five of the requirements with priorities 1 through 50 were not funded, while 8 of the requirements with priorities 51 through 107 were fully or partially funded.

--Indefinite quantity contracts, which were priority 107 (lowest priority), were partially funded for about $820,000.

--Reproduction paper, which was priority 106, was fully funded for $100,000. A Fort Hood official explained that the decision to fund reproduction paper was based on the priorities of a Forces Command program manager, rather than on Fort Hood priorites. Also, the paper was on hand at a self-service supply store, and funds could be quickly applied. In total, the command's installations spent about $200,000 for yearend purchases of reproduction paper.

Program execution hampered by inconsistent funding

Execution of the maintenance and repair program is also adversely affected by inconsistent program funding. The inconsistency occurs for three primary reasons. First, millions of dollars migrate to the program from mission accounts. Second, late enactment of annual appropriations and supplementals causes problems, such as yearend surges to the program, because the funds are received too late to be obligated for the purpose justified in the budget. Third, the projects planned in the program are the most discretionary aspect of the base operating support account, so they become a source of funds early in the year when unfunded or underfunded operational requirements must be supported. Several inefficiencies result, such as:

--Program plans and funding schedules must be adjusted, and detailed contingency plans must be prepared to cover all possibilities. The possibilities include executing the program with uncertain resources while operating under a continuing resolution, phasing contract awards to prevent Anti-Deficiency Act violations, and obligating program supplementals and reprogramed funds that migrate into the program in late September.

--Planned obligation rates are disrupted.

--Existing programs are curtailed, and new program starts are delayed. As a result, escalating costs later in the year may be accompanied by decreased purchasing power.

The following examples illustrate the extent of the fourth-quarter surge of funds to the program.

--During fiscal years 1980 and 1981, fourth-quarter funding at Langley Air Force Base accounted for over 60 percent of the annual funding for contracted maintenance and repair projects.

--At Miramar Naval Air Station, over 40 percent of the annual program funds were obligated in the fourth quarter during both 1981 and 1982.

--At the Army's Training and Doctrine Command, 44 percent of the 1982 program funds were obligated in the fourth quarter.

For the most part, the projects financed with reprogramed and supplemental funds have had high priority in current work plans or have been identified as an unfunded backlog. But some projects were of questionable need and probably would not have been funded without the administrative pressures of a closing fiscal year. Also, some open-end maintenance and service contracts were increased significantly for work that would not start until well into the next fiscal year. For example:

--At the Little Creek Naval Amphibious Base, an official told us in June 1982 that the base could spend only an additional $80,000 on maintenance service contracts during the fiscal year. In September 1982, the base received an allocation of $300,000 which required obligation before the end of the fiscal year; about $250,000 was obligated for maintenance contracts and about $50,000 was obligated for minor construction projects. We were unable to determine the priority of the work funded because the base does not maintain a work plan showing priority of work to be accomplished. However, we noted that nine roof repair projects were not funded by the year's end, while funded projects included installing a door, widening sidewalks, resurfacing tennis courts, painting signs, refinishing wood panels, and replacing acoustical ceiling tiles.

--At Fort Lee, two requirement contracts were funded in September 1982 with $2.7 million that migrated to the program from the Training and Doctrine Command. These projects, $1.3 million to pave roads and parking lots and $1.4 million to put vinyl siding on 88 temporary buildings were (1) not in the installation's 1982 or 1983 work plan, (2) not in the installation's recorded backlog, and (3) not validated as required by command directives. Army officials acknowledged that the paving would have been forgone for higher priority work if the funds had been received as early as mid-August. The siding project is being executed even though we found the following inconsistencies in the cost analysis for painting versus siding:

1. The initial cost comparison was made on replacing deteriorating wood siding; however, 48 of the 88 buildings included in the current contract had asbestos siding.

2. The economic analysis included the present value of paint and repairs for a 3-year cycle; however, an examination of the paint records for the buildings included in the current contract showed that a majority were being painted and repaired on a 6-year cycle.

3. The economic analysis included in the present value of heat consumption used the cost of fuel oil; however, our examination of records showed that 38 of the 88 buildings were heated by natural gas.

4. The economic analysis included in the present value of heat consumption used an annual basis; however, 44 of the 88 buildings were not used throughout the entire year.

5. The initial cost of the vinyl siding used in the economic analysis of the sample barracks building did not include all costs associated with the exterior renovations of the prior contract. The initial costs used for the analysis was $9,330; however, records showed that actual cost associated with putting vinyl siding on the sample building was $21,800.

An installation engineer official did not agree that the initial cost of vinyl siding was understated, however, he did agree that the window work and door replacement associated with putting on the vinyl siding probably would not have been done, if the buildings were repainted rather than sided.

--At Fort Stewart, yearend funding was used to construct a $92,000 bicycle path when backlog projects, such as repairing a rotary wing apron ($25,700), widening and resurfacing streets ($88,900 and $33,500), and upgrading electricity in eight buildings ($38,000), appeared to be more mission essential.

--USAREUR received $10.5 million at 9:30 p.m. on September 30, 1982, from Army headquarters to fund several projects for which bids had been received.

--A Navy official at the Oceana Naval Air Station told us he expected the end-of-the-year funding and had requested bids for maintenance contracts that were worded so they could be awarded in September of fiscal year 1982 if funds were received, or in October of fiscal year 1983 if funds were not received. Those contracts alone totaled $601,409. Included were six open-end service contracts, totaling $274,000, for which 1982 funds were obligated, but from which services will not be receive until fiscal year 1983.

Better goals needed for reducing maintenance backlog

Almost all of the services' maintenance and repair backlogs grew significantly between fiscal years 1980 and 1982, as shown below.

Maintenance and Repair Backlog

Fiscal year	Army	Navy	Air Force
	(000,000 omitted)		
1980	$1,853	$587	$489
1981	2,288	644	529
1982	2,039	717	507

Each year DOD cites increasing growth in the backlog as an indicator that prior-year funding levels have been inadequate, and the Congress responds by increasing appropriations to help contain the growth. Although the Army and Air Force reduced their backlogs in 1982, there is some question about whether the reduction can be attributed to increased funding. For example, in April 1982, Air Force headquarters directed major commands to analyze the growing 1982 backlog to ensure that only projects that must be completed during the year stayed in the program. The Air Force wanted to identify projects that could be switched to future years to prevent an unrealistically inflated backlog at the end of 1982. As a result the 1982 yearend backlog was a reported $22 million less than that of 1981. During May 1982, Army headquarters directed major commands to validate current backlogs and to establish a system for validating projects on an annual basis thereafter. At the end of 1982 the Army's backlog was reduced by 12 percent, or $249 million. Following is one

example of how backlogs were reduced within the Training and Doctrine Command.

--Fort Lee reduced its backlog by eliminating $9.2 million in backlog projects, many of which were validated, and annotated its backlog report to indicate that the projects were removed in compliance with the Training and Doctrine Command's guidance not to increase the installation's backlog. Additionally, installation officials said that the installation had identified $800,000 worth of facility deficiencies that should have been reported as a backlog; however, because of the command's guidance, they were not. The officials also said that, under these types of conditions, the backlog was being distorted and the backlog problem was only being compounded. A command official said that there was no intent in the guidance to restrict backlog growth in 1982, and the $9.2 million was restored to Fort Lee's program.

As discussed on page 24, the services' internal review activities have found that backlog levels were understated. Once backlogs have been validated to accurately depict the condition of the services' property, specific goals for containing and reducing the backlogs should be established and reported in budget requests. The containment levels that have been established at prior-year end balances are a start, but further action is needed. The Army is implementing a budget practice which the Air Force and Navy should consider. After funding recurring maintenance and new work with a combination of funding guidance and expected migration from other accounts, the Army will use the remaining funds, if any, to reduce its backlog.

Conclusions

Maintaining military installations in proper repair is essential to keep the forces ready, sustain mission capability, and provide a desirable quality of life for the troops. As we have reported, for the most part program funds are being obligated for those purposes. But because some lower priority projects are funded, higher priority projects are forced into the unreconciled but growing backlogs. We believe this occurs because:

--The services do not have a system that relates program resources to mission capability and expected annual achievements.

--The services use backlogs to justify increased funding requirements even though they have not been validated by all the services.

--The services have not established backlog funding plans that are in line with each installation's priorities and ability to execute the program.

FLYING HOUR PROGRAMS

For fiscal year 1982, about 10 percent of DOD's O&M budget was spent to support the services flying hour programs.

Military aircraft are flown for several reasons:

--Operational flying to accomplish military missions.

--Pilot training, including initial flight training; graduate flight training in specific operational aircraft; and specialized courses, such as instructor pilot training and refresher training for pilots returning to pilot positions after serving elsewhere.

--Continuation training, which accounts for the largest portion of flying, maintains and improves the skills of pilots assigned to operational fighter, transport, or other units to ensure readiness for potential combat operations.

--Support flying involving transporting cargo and personnel and other specialized tasks necessary for the services' day-to-day operations.

In reviewing selected parts of each service's flying hour budget, we found that:

--Funding levels are not always correlated with program goals and objectives, and feedback on budget execution and achievements is inadequate.

--Flying hour programs are not thoroughly coordinated with other supporting accounts.

--Flying hour budget calculations do not always include all missions flown, and some variables in the computation formula may be overstated.

Need for more accurate budget requirement for Navy tactical flying hours

The Navy's flying hour budget grew from 1,852,892 hours and $918 million in fiscal year 1980 to 1,911,327 hours and $1,654 million in fiscal year 1983--an increase of 3 percent in hours and 80 percent in costs. The program includes hours and funds to train new aircrews, continue readiness training for operational aircrews, and maintain the proficiency of pilots assigned to staff positions. It also provides resources to support the fleet and to conduct special missions. The largest segment of the flying hour program, about 60 percent of the dollars and 44 percent of the hours, is programed for tactical air and antisubmarine warfare (TACAIR/ASW) training.

The TACAIR/ASW budget is based on what is needed to train aircrews to a peacetime primary mission readiness level and to provide limited flying hours for personnel assigned to staff positions. However, sufficient funds are available to accomplish several other regularly required missions, including operational tasking and service support. Although these missions are recognized as annually recurring requirements, the Navy does not specifically budget for them. Following are examples of the missions that are not budgeted--but are funded--in the TACAIR/ASW budget.

--Operational missions, flown to accomplish the Navy's military mission, include (1) using ASW aircraft to investigate submarine sightings along the U.S. coastline and around fleet task forces and (2) using attack aircraft for surface search surveillance when Soviet or Soviet bloc vessels are outside their normal operating areas.

--Service support flying, done to support other TACAIR/ASW squadrons or surface ships, includes (1) towing targets for gunnery practice and (2) flying missions to aid in calibrating radar, missiles, and electronic gun sites aboard ship and in training air intercept controllers and ASW tactical teams aboard ships.

In addition to operational and service flying, some civil support flying which is not budgeted by the Navy is also supported with TACAIR/ASW funds. For example, during fiscal year 1982 the Atlantic Fleet flew 706 hours, at a cost of about $806,000 for drug interdiction operations.

Navy fleet officials acknowledge that the TACAIR/ASW budget provides funds for flying other than training; however, funds are needed to support operational and service flying. We believe that, because such flying occurs regularly, the Navy should have adequate empirical data to plan and budget for the requirement. The Navy is aware that more in-depth analysis of TACAIR/ASW flying would be beneficial and is studying alternatives to achieve better measurements. Some officials estimated that operational flying may be as high as 36 percent of the total TACAIR/ASW flying hour program. In addition to funding unplanned requirements, the TACAIR/ASW budget may be based on inaccurate calculations.

Inaccurate cost calculations

The budget formula contains three dependent variables: (1) the average number of aircraft scheduled to be available during the year, (2) the ratio of crews to aircraft needed to execute the missions, and (3) the standard number of hours each crew must fly monthly to attain primary mission readiness. We previously reported that the Navy's operational training budget could be more closely linked to actual needs and to its historical ability to execute the budget.[2/] However, some of the problems still exist today. For example:

--During the late 1970s, the number of aircraft used to develop the TACAIR/ASW flying hour requirement exceeded the number of operational aircraft that were actually available. The same problem exists in the 1980s. We compared budget estimates and average assigned operational aircraft for fiscal years 1980, 1981, and 1982 and found that the number of aircraft used to develop the budget exceeded the average assigned each year by 147, 147, and 112, respectively. We estimate about $69 million was budgeted to fly the 112 aircraft that were not available for the 1982 program. The Navy points out that if fewer airplanes are assigned than planned, those that are available will be flown more hours to accomplish the required training.

2/"Flying Hour Programs of the Military Services: Opportunities for Improved Management" (LCD-75-451, June 18, 1976).

"The Services Can Further Refine Management of Flying Hour Programs" (LCD-79-401, Mar. 27, 1979).

--Excess flying hours were built into some of the primary mission readiness training standards. For example, each P-3 crew was required to fly a total of 52 hours a month in 1979 to attain 100 percent PMR. We estimated that this requirement was overstated by 2.22 hours because (1) hours for staff and supervisory personnel were included even though they were programed and funded separately, (2) some events that could be simulated were included, and (3) the standard was rounded to the next highest number. If the standard had been reduced, the P-3 flying hour program in the Pacific alone could have been reduced by about 3,800 hours, or an estimated $1.6 million in 1979. According to Navy officials the P-3 PMR standard is the same in 1983 as it was in 1979. The same 3,800 hours cost about $4.4 million in fiscal year 1983.

Inadequate execution feedback

In defending the method used to develop the TACAIR/ASW budget, Navy officials pointed out that the funds support the fleets' training and mission requirements and that the total hours flown in each type of aircraft are coming closer to the budget plan than they have in the past. The officials also made the point that because training is accomplished during every mission flown, primary mission readiness is improved and thus the funds are, in part, being used as budgeted. In our opinion, however, the issue is one of accountability. That is, how can the Navy know what it is achieving in terms of program goals and objectives? And could the same achievements be obtained with fewer resources?

Although execution statistics are fed back from flying units through fleet commands to Navy headquarters monthly, the statistics are consumption indicators, such as how many hours were flown and how much they cost. Performance indicators, such as how well operational and performance goals and objectives were achieved, are not addressed. Even if performance were evaluated against expections, it could not be related to specific resource levels because the TACAIR/ASW budget does not identify the costs for operational and service flying.

If some parts of the monthly training requirement can be satisfied during operational and service missions, training standards should be decreased accordingly. Separate goals and objectives should be established for each component of the TACAIR/ASW activity, and the extent that goals and objectives are achieved should be a factor in developing future budget requirements.

Better coordination and execution needed in Army's flying hour program

From fiscal year 1980 to 1983, the Army's flying hour program grew from 1,134,000 hours and $172 million to 1,259,000 hours and $278 million--an increase of 11 percent in hours and 62 percent in costs.

Because the effectiveness of the flying hour program depends heavily on logistical support, the program must be closely coordinated to ensure that all essential support is on hand in the needed quantities at the right time. Programs should be executed as closely as possible to the plan so that supportability does not become a problem. In fiscal year 1982, however, the Army budgeted more funds for flying hours than it could spend, primarily because flying hour requirements increased faster than repair parts could be acquired.

The shortage of spare parts caused the Army to cut back its fiscal year 1982 flying hour program by 5 percent, or 80,000 hours, and to reprogram $17.5 million for the purchase of aviation repair parts. The Army subsequently returned 30,000 hours to the program. Because of the spare parts shortage, Army officials have also projected a reduction in the flying hour program for fiscal years 1982 and 1983 of 150,000 and 290,000 hours, respectively. The Army attributed the shortage of spare parts to several factors, including (1) failure to fully coordinate the expanding flying hour program with logistical support, (2) short-sighted logistics planning that did not consider increased procurement leadtime, and (3) increases in requirements for new aircraft and changes in the force structure.

The Army exacerbated the parts shortage by not closely controlling execution of the flying hour program. The Army permitted division commanders the discretion to fly assigned aircraft as many or as few hours as deemed necessary, as long as the total hours allotted to the divisions were not exceeded. This prerogative was viewed as a way to "enhance the flying hour to dollar ratio and to maximize training effectiveness." However, such uncontrolled execution of the flying hour program resulted in overflying some aircraft and not flying others as often as planned. It also contributed to the already-acute shortage of spare parts because the supply system could not respond to the greater demand for spare parts caused by an uncoordinated increase in flying hours for some aircraft. As a result, effective in April 1982, the Army placed a ceiling on the number of hours that each type of aircraft could fly.

The Congress not informed of Air Force flying hour program changes

Program requirements may change from the time the services deliver their budgets to the Congress and the Congress appropriates funds due to operational needs and changing priorities. Although the military services track these program changes and update program costs, they seldom provide this information to the Congress.

For fiscal year 1983, the Air Force requested $3.3 billion to fly 2.3 million hours. However, while the Congress was debating the defense appropriation, the Air Force reduced its flying hour program by more than 46,000 hours and about $65 million because maintenance requrements will prevent execution of the F-16 program as planned. Although this reduction took place in August 1982, the Congress was not informed until November when we advised the Subcommittee on Defense, House Appropriations Committee. The Air Force plans to use the $65 million to partially offset fiscal year 1983 budget reductions offered by DOD to the Congress.

The Air Force example is the only one that surfaced during our review, but it is likely that the other services make similar changes every budget year. Currently, the services have no incentive to notify the Congress of changes in program requirements that invalidate previous budget estimates. By not notifying the Congress, the services are free to reprogram funds to cover the costs of previously unfunded requirements. We believe the Congress should be informed when program changes occur after submitting the budget, particularly while the Congress is still considering the defense appropriation.

Conclusions

The services' flying hour programs do not accurately reflect annual requirements, nor do they relate program resources and achievements. The Navy budgets for flying primary mission readiness training, but it also flies operational and service support missions. The Army has not adequately coordinated logistical support with the flying hour program and shortages of repair parts have hampered efficient program execution.

Additionally, the Congress is not notified by the services when changes in program requirements significantly offset the level of funding requested. Currently the services have no incentive to notify the Congress of changes in program

requirements and are free to reprogram funds to cover costs of previously unfunded requirements.

ARMY'S FORCE MODERNIZATION PROGRAM

The Army's force modernization program funds the fielding of new systems and equipment and the recurring support costs of equipment fielded in previous years. Funds budgeted to support new equipment are used for initial transportation and training, and sustainment funds provide for operating costs, such as maintenance and fuel. Since fiscal year 1981, when force modernization was established as a separate management program, the Congress has appropriated a total of $2.6 billion for the fielding, operation, and support of Army equipment. The number of systems being supported has increased from 42 in fiscal year 1981 to 153 in fiscal year 1983. The value of resources consumed by the program is expected to approach $2.9 billion by fiscal year 1987.

In fiscal year 1982, as shown below, four major commands received 95 percent, or $891.4 million, of the $940 million appropriated for force modernization.

Command	Army force modernization funds (millions)	Percent of total
Material Development and Readiness	$507.2	54
U.S. Army, Europe	183.4	20
Forces Command	133.5	14
Training and Doctrine Command	67.3	7
Other	48.1	5
Total	$939.5	100

The Army Material Development and Readiness Command, which received the largest amount, uses its funds primarily for technical support and maintenance of systems already fielded. The Training and Doctrine Command is primarily concerned with developing policy and procedures associated with fielding new

tactical systems and the training of troops. The USAREUR and the Forces Command are commonly referred to as "user" commands and are most affected by changes in the fielding of new equipment. To determine if funds received by commands for the fielding, operation, and support of new equipment were spent for these purposes, we reviewed use of the funds at these two commands.

Our review of the fiscal year 1982 force modernization program found a variety of problems. Foremost among them were:

--Incorrect cost factors were used to calculate operation and support costs.

--Systems for which funds were budgeted were not fielded as planned.

--Field distribution plans, which provide for the fielding of equipment and the logistical support needed to maintain and use the equipment, were not always followed.

Primarily as a result of these problems, $118.2 million of the fiscal year 1982 funds appropriated for force modernization were reprogramed to activities other than force modernization.

Cost to operate M60A3 tank overstated

Approximately $20.6 million, or almost 40 percent of USAREUR's fiscal year 1982 funds identified as excess, were excess because USAREUR used incorrect factors to calculate operation and sustainment costs for the M60A3 tank. During fiscal years 1979-81, USAREUR calculated such costs by using replenishment cost guidance provided by the Material Development and Readiness Command.

For fiscal year 1982, the Materiel Development and Readiness Command reduced operation and sustainment costs for the M60A3 tank to about one-third the amount used in previous years. Believing that the new cost estimates were too low, USAREUR did not use them. After USAREUR budgeted for and received funds based on the higher replenishment costs data, the Army informed USAREUR that the new guidance was accurate and that USAREUR's estimates were, therefore, too high.

Problems with field distribution plans

In our April 1982 report on the defense budget, we pointed out a major redirecting of force modernization funds had

occurred in Europe. The reprogramings were the result of not fielding systems as planned. The problem still exists in Europe, as well as the Forces Command.

At two Forces Command installations, Fort Hood and Fort Stewart, 26 systems scheduled for delivery in fiscal year 1982 were not fielded. Fort Hood did not receive 8 of 25 systems scheduled for fielding, and Fort Stewart did not receive 18 of 36 scheduled systems. And although USAREUR received funds for fielding 50 systems, 14 systems were not delivered. Army officials said that this situation was caused primarily by production and contractual problems, but we did not validate these problems.

Some systems which were fielded as planned encountered problems because the distribution of the new systems was not coordinated with the logistical support (such as spare parts) to operate and maintain the systems. As a result, units could not logistically support the systems received.

One example of this problem involves the fielding of simplified test equipment for internal combustion engines. In fiscal year 1982, Fort Hood was scheduled to receive 283 sets of the test equipment, and in June 1982, the Forces Command notified Fort Hood that it would receive 51 sets. The command's distribution plan called for all 51 sets to go to the 2d Armored Division, but the Tank Automotive Command did not ship the sets according to that plan. Instead, it shipped a total of 49 sets: 19 sets to the 2d Armored Division, 11 sets to the 1st Cavalry, and 17 sets to 5 other Fort Hood units. The distribution of the other two sets was not readily identifiable.

Due to the lack of advance notice, Fort Hood had not scheduled any new equipment training and had not ordered maintenance and parts manuals when it fielded the new test sets. Furthermore, most Fort Hood units could not logistically support the test sets because they had not received the spare parts needed to maintain them. For example, the 1st Cavalry Division did not have about 27 percent of the line items required, and the other units that received test sets did not receive any spare parts and could not obtain them. The Tank Automotive Command logistics manager informed Fort Hood managers that contract problems could delay a complete inventory of spare parts until March 1983.

Fort Hood officials were concerned that continued fielding of the test equipment with insufficient spare parts could result in poor readiness rates which could, in turn, cause troop

dissatisfaction with the system. Accordingly, in July 1982, they requested that the fielding of the test equipment be stopped until (1) the Force Command's and the Tank Automotive Command's distribution plans could be brought into agreement, (2) sufficient spare parts were available to support the anticipated fielding, and (3) spare parts delivery could be coordinated with end item distribution.

Excess funds reprogramed to other activities

In March 1982, the Office of the Comptroller of the Army conducted a mid-year review of the progress being made in executing the $940 million fiscal year 1982 force modernization program. Results showed that almost 13 percent, or $118.2 million, of the funds appropriated could not be spent as planned. The following chart shows commands having excess force modernization funds.

Excess Army Force Modernization Funds

Army command	Mission	Intelligence	Maintenance	Training	Total
	(000 omitted)				
U.S. Army, Europe	$ 49,117	$ -	$ 2,992	$ -	$ 52,109
Forces Command	73,800	-	-	400	74,200
Training and Doctrine Command	6,090	-	65	5,479	11,634
Materiel Development and Readiness Command	(7,664)	(49)	(31,351)	-	(39,064)
Other	17,623	612	(508)	1,572	19,299
Total	$138,966	$ 563	$(28,802)	$7,451	$118,178

Note: Numbers in parentheses indicate shortages in the program.

USAREUR's excess of $52.1 million represents 28 percent of the funding it received, and the Forces Command's excess of $74.2 million represents 56 percent.

The excess funds were subsequently reprogramed to other activities, as shown in the table below. The largest portion of the reprogramed funds was used to pay for utility costs. About $6.8 million remained unobligated at the end of the fiscal year and was returned to the U.S. Treasury.

Programs Receiving Funds Reprogramed From Army Force Modernization

Program	Amount (millions)
Go-to-war stocks and organizational clothing	$ 14.4
Training enhancements	13.6
Civilian health and medical program for unformed services	6.8
Utilities	21.4
Real property maintenance activities	12.9
Civilian pay	11.4
National Guard personnel	8.0
Contract services	6.1
Military Airlift Command rate adjustments	4.2
Borrowed military personnel	4.0
Schofield Barracks landfill	3.5
Miscellaneous	5.1
Unobligated	6.8
Total	$118.2

Conclusions

Delivery and support of new or modernized weapons is a key part of the Army's program to modernize its forces. However, the Army did not field the number of systems it planned to field. As a result, $118.2 million was reprogramed from force modernization to other activities, many of which were nonmission activities.

Because fiscal year 1982 funds could not be spent on the planned systems, the Army will need additional funding in later years to field those systems. If the problems with fielding new systems are not corrected, they could affect future-year budget requests. Based on current projections, funding requests for Army's force modernization program will more than double by fiscal year 1987. More importantly, continued fielding problems could thwart the Army's efforts to modernize its forces.

DEPOT MAINTENANCE PROGRAMS

Depot level maintenance, which provides for the overhaul and repair of aircraft, combat vehicles, ships, and equipment, is a key component of DOD's effort to increase the materiel readiness of U.S. forces. In fiscal year 1983, the services received more than $9.8 billion for depot maintenance, an increase of $4 billion, or 70 percent, since 1980.

Our April 1982 report pointed out that the services' goal to attain a zero maintenance backlog might not be achievable or economical. Since then we have looked at portions of the Navy's and Army's maintenance programs to see if program goals are being achieved and funds are being efficiently spent. Our work surfaced the following problems.

--The Navy has not achieved program goals or significantly increased it mission capability rates, despite increased funding.

--The Army may not be putting funds to the most efficient use, because it is funding more work than the depots can complete each year.

Navy's aircraft rework program not meeting its objectives

In terms of current year dollars funding for the three major categories of Navy's aircraft rework program increased from $933 million in fiscal year 1980 to $1,469 million in fiscal year 1983, an increase of $536 million, or 57 percent.

These funds are used to rework aircraft and engines and to repair components. For fiscal year 1983 about 58 percent of the funding was designated to repair components, 28 percent to rework aircraft and 14 percent for engines. With the funds provided in fiscal year 1983, the Navy expects to complete all planned work and clear up a significant backlog that remained at the end of fiscal year 1982. The backlog was composed of about

38 aircraft and 532 engines and a component availabiltiy rate in the Navy supply systems of almost 66 percent. The Navy also expects to complete all of its scheduled work in fiscal year 1983 thus entering fiscal year 1984 with no unfunded work in backlog. Based on Navy's past performance we do not consider a zero backlog as an attainable goal for fiscal year 1983.

Navy measures its aircraft rework backlog in two different ways. One measure is the number of units and dollar value of unfunded work. The other, which we have not been able to relate to the level of funding or depot productivity, is in terms of desired year-end goals, which are:

--94 percent of the aircraft being inducted to the depot as scheduled.

--Full funding of the component repair requirement, allowing the Navy supply system to fill component requisitions 85 percent of the time.

--No more than 36 engines missing from aircraft.

If these goals are met, the Navy considers the backlog to be zero. Whether or not these goals are met also affects whether the Navy meets its aircraft mission capability goal, which the Chief of Naval Operations has set at 70 percent. The following chart shows how the Navy has performed relative to its goals since fiscal year 1980.

Goal	Actual achievements FY 1980	FY 1981	FY 1982	Estimated FY 1983
Mission capability (70 percent)	59	59	63	63
Aircraft Fixed on time (94 percent)	88	93	93	94
Components available in supply system (85 percent)	60	64	66	72
Engines missing from aircraft (36 units)	202	43	66	85

Reasons exist to question the Navy's chances of reaching a zero backlog. First, the Navy has been able to repair the number of units it planned for only once in the past 3 years. That occurred in fiscal year 1980 when 98 more aircraft were

reworked than planned. At the end of fiscal year 1982 Navy missed its budget estimates by 308 aircraft and 972 engines. Second, there are valid reasons that scheduled reworks will not be completed, such as operational commitments that prevent timely induction. When schedules are disrupted and substitutions are made, total costs vary which often means fewer overhauls than planned.

In supporting depot maintenance budget requests, Navy officials present their expectations in terms of the goals discussed above. However, when actual achievements fall behind the initial expectations, as shown below, the Navy often adjusts its reported expectations accordingly. For example, when testifying before the House Appropriations Committee on the fiscal year 1982 budget, the Navy expected a 64-percent mission capability rate. Later, when testifying before the Senate Armed Services Committee on the fiscal year 1983 budget, the Navy said it expected a 60-percent mission capability rate in fiscal year 1982. As shown in the preceeding table the actual fiscal year 1982 rate was 63 percent.

Mission Capability Rate

	Expectations reported to House Appropriations Committee on FY 1982 Budget		Expectations reported to Senate Armed Services Committee on FY 1983 Budget		
	FY 1981	FY 1982	FY 1981	FY 1982	FY 1983
Percent mission capability	61	64	59	60	62
Percent aircraft inducted on time	92.3	94	94	91	94
Percent component funding	98.9	100	96.3	98	100
Engines missing from aircraft	150	40	80	80	36

Estimates will change with experience and this is not unexpected or unusual. We believe that the Congress should be provided more visibility concerning the changing performance estimates as the current budget is being executed and as budget requirements are being debated.

Army's depot program experiencing problems in executing funded workload

Between fiscal years 1980 and 1983, the Army's depot maintenance funds increased by $436 million. The fiscal year 1983 budget justification noted that one of the two primary reasons for program growth over fiscal year 1982 was to maintain a zero backlog of depot maintenance. However, "zero backlog," as used by the Army, simply means requirements have been funded, but not necessarily accomplished. The term "carryover" refers to funded maintenance work which remains incomplete at the fiscal year's end. The Army's year-end carryover has continued to increase because more work is being funded than is being completed. This practice does not appear to be an efficient use of funds.

To assess the carryover issue, we reviewed records and held discussions at the Corpus Christi Army Depot. Despite extensive overtime use, the depot's maintenance carryover has continued to increase. Since fiscal year 1981, the Army has programed more maintenance work for the depot than it can accomplish considering program limitations. As shown below, the depot's year-end carryover increased by almost 64 percert between fiscal year 1981 and 1982.

Computation of Carryover
Corpus Christi Army Depot

	FY 1981	FY 1982	FY 1981 to FY 1982 increase Amount	Percent
	(millions)			
Carryover from prior year	$ 45.9	$ 50.5	$ 4.6	10.0
New orders received	137.1	190.9	53.8	39.2
Total work available	183.0	241.4	58.4	31.9
Work accomplished	132.5	158.8	26.3	19.8
Yearend carryover	50.5	82.6	32.1	63.6

Corpus Christi officials attribute the growth in carryover to civilian personnel shortages resulting from authorized end-strength ceilings which is where we concentrated our review efforts. We found the following factors also contribute to carryover increases.

--Shortages of spare parts needed for maintenance.

--Unavailability of reparable assets at the depot. (Items requiring maintenance are not received as anticipated.)

--Priority tradeoffs, such as deferral of some funded workload to work on higher priority unanticipated requirements received during the year.

Because some carryover is considered necessary to ensure continuity in the production process, the goal for Army depots is to maintain an average carryover of no more than 3 months of direct maintenance workload. The depot has not met this goal in recent years. For example, yearend carryover represented 3.7 months of workload in fiscal year 1981 and 4.3 months in fiscal year 1982. From fiscal year 1981 to fiscal year 1982 the total programed and funded workload increased from about 3,315,000 to 4,274,000 direct labor hours, or about 29 percent. The depot's authorized civilian end strength for its maintenance mission during this same period increased from 2,514 to 2,654, or about 6 percent. The following table shows, in terms of civilian direct labor hours, the depot's fiscal year 1982 maintenance workload, including hours applied (spent) and carryover.

Computations of Carryover
Corpus Christi Army Depot

	Direct labor hours (000 omitted)	
Carryover from FY 1981	581	
FY 1982 program	3,693	
Total FY 1982 worklaod		4,274
Regular time applied	2,511	
Overtime applied (26 percent of regular)	654	
Total accomplished work-load		3,165
Carryover to FY 1983		1,109

Inefficient and costly overtime use

In recent years, Corpus Christi's civilian overtime use for the maintenance mission has increased to a level which is neither efficient nor cost effective in relation to direct labor. The Army Depot System Command has set an 11-percent overtime goal at depots and considers higher overtime rates inefficient. From fiscal year 1980 to 1982, Corpus Christi's total (direct and indirect) overtime maintenance hours increased from 284,700--almost 7 percent of regular time--to 840,439--over 18 percent of regular time. [3/] Associated overtime costs increased from about $4.7 million in fiscal year 1980 to nearly $16.1 million in fiscal year 1982. Overtime labor for the total fiscal year 1982 maintenance mission averaged $19.15 an hour, while regular labor averaged $13.82 an hour.

In fiscal year 1982, the direct labor overtime hours totaled 654,224, or 26 percent of regular maintenance hours, compared with 228,757 or 9.6 percent, in fiscal year 1980. According to a depot official, some personnel in the direct labor area have been working 60-hour weeks (six 10-hour days) for an extended period, and the productivity of working at this rate is likely to be reduced. In addition, the high overtime increases labor costs.

Outlook for fiscal year 1983

The carryover problem may become even more serious in fiscal year 1983. The depot's authorized end strength for the maintenance mission as of the start of fiscal year 1983 was 2,716--an increase of only 62 personnel over fiscal year 1982. However, the fiscal year 1983 projected total workload (as of September 30, 1982) is 4,427,000 direct labor hours, consisting of 3,318,000 hours for new work orders and 1,109,000 hours of carryover from fiscal year 1982. Based on its most recent personnel authorization, the depot will have only 2,776,000 regular direct labor hours available in fiscal year 1983. With this tremendous imbalance in workload and available labor hours, maintenance personnel would have to work over 27 percent overtime in the direct labor area to reduce the projected fiscal year 1983 carryover to a 3 month level. If overtime is limited to the more efficient 11 percent goal, carryover is expected to be 5.2 months at the end of fiscal year 1983.

[3/] These overtime percentage calculations do not include paid leave hours.

Civilian personnel ceilings are weakening the Army's ability to execute its depot maintenance program and are contributing to increased maintenance carryover. To reduce carryover levels, the Army must make a coordinated effort to have all necessary resources available when needed and to match such resources with realistic maintenance requirements. Increased funding alone will not ensure that maintenance work can be completed.

Conclusions

Depot maintenance backlogs should be declining each year as increased budget authority is granted; however, there is no indication this is happening. The Navy consistently overestimates the number of units it can repair with a requested level of budget authority, which places incomplete work in the unfunded backlog. It appears that the Navy's achievements have matched neither its expectations nor its goals; increased funding has not appreciably changed aircraft mission capability rates. And the Army funds more work than it can complete in a year, which annually increases the funded carryover at the year's end. This ties up funds so they are not available for requirements, during the current fiscal year, that may be more essential than those funded with prior year end money. Both conditions are undesirable, and the Congress should be aware of them when debating the budget.

We believe each year's budget request should include a comparison of expected versus achieved outputs and should provide explanations when expectations are not achieved. In addition, the Army should strike a balance between the depot work that must be completed and the resources necessary to do the work.

QUESTIONS FOR USE DURING CONGRESSIONAL REVIEWS

Congressional authorizing and appropriating subcommittees and committees may wish to ask the services the following questions during their budget year and execution year reviews.

Real property maintenance and repair programs

1. The services have justified increased funding for real property maintenance to not only enhance readiness but also improve the working and living conditions of service personnel.

    --What guidance and criteria have the services developed to ensure that funds are spent prudently on readiness and quality of life projects?

--What measureable improvements have resulted from increased real property maintenance funding?

2. Each year millions of dollars migrate from mission-related programs to real property maintenance. Because much of this funding migrates in the last months of the fiscal year, projects of questionable need are sometimes funded in an attempt to spend the money before year end.

   --What have the services done to ensure that only high priority projects are funded with year end migration?

3. The number of projects that has not been funded in prior years is considered a symptom of inadequate funding. However, our review and those of the services internal review activities have found that reported backlog levels are inaccurate and thus questionable as an indicator of need for increased funding.

   --What has been done to validate the backlog level for this year's budget?

   --How much confidence can be placed in the reported backlog?

4. In part, the services have justified increased funding for real property maintenance because of a growing backlog of projects.

   --Have the services validated their backlogs to ensure that only essential projects are included?

   --What progress have the services made in reducing their backlogs since fiscal year 1980? If reductions have occurred, did they result from increased funding or revalidation of the backlog?

Flying hour programs

1. Budget requirements for flying hours should be based on accurate estimates of aircraft available to execute the program.

   --Are current flying hour budget requirements computed using total authorization or historic trends of available operational aircraft?

   --To what extent does this factor inflate the flying hour budget request?

2. Programs such as flying hours that are dependent upon other programs, such as logistical support, must be closely coordinated to ensure all essential support is on hand in the needed quantities at the time needed.

   --How do the services ensure that flying hour budgets are thoroughly coordinated with support functions, such as personnel, spare parts, and maintenance?

   --What procedures have been established to provide an oversight capability?

3. Program requirements are subject to change due to operational needs and changing priorites. Although the military services track these program changes and update program costs, this information is not routinely provided to the Congress.

   --Under what circumstances do the services notify the Congress of program changes prior to program appropriation?

Army force modernization program

1. Operation and sustainment costs are now assumed to be equal for each year during the useful life of the equipment. However, USAREUR officials believe that such costs are lower in the initial year of fielding and escalate with the age of the equipment.

   --How does the Army plan to determine if costs are lower during the initial years and, if so, to make corresponding cost adjustments?

2. The Army has incorporated the standard midyear review concept into force modernization management. The review identified fund excesses and shortages for the major commands but did not determine specific reasons for them.

   --Has the Army identified specific reasons why funds for force modernization cannot be spent as planned? If so, why?

   --Do repeated program excesses indicate that stated requirements for fielding new systems exceed the actual need?

Depot maintenance program

1. Depot maintenance backlogs accrue when valid requirements cannot be satisfied because of insufficient resources. At the Corpus Christi Army Depot we found just the opposite; i.e., funded but incompleted maintenance work was being carried forward to the next fiscal year at an increasing rate.

   --Are other service depot activities experiencing a similar problem, and if so, what are the projected carryovers for the end of fiscal year 1983?

   --Is this problem caused by each of the service's efforts to achieve a zero backlog? What actions have the services taken to coordinate depot maintenance requirements with available resources, such as spare parts and staffing levels, to ensure that the program can be executed as budgeted?

   --In view of the ending and projected carryover at the Corpus Christi Depot for fiscal years 1982 and 1983, why shouldn't the Army's fiscal year 1984 budget be reduced to bring the carryover down to a manageable level?

2. To increase readiness and sustainability the services have established a goal of achieving a zero maintenance backlog for their depot programs by the end of fiscal year 1983.

   --Have indicators been established to link depot level maintenance to overall mission capability? If so, do mission capability and other readiness-related indicators reflect a positive trend as a result of increased funding?

   --How do rising or falling funding levels affect the indicators?

CHAPTER 4

INCREASED INVESTMENT FUNDING: WHAT IS THE PAYOFF?

The funding which DOD has received to support its investment program since fiscal year 1980 has doubled. In fiscal year 1980, these programs accounted for 37 percent of DOD's budget. In fiscal year 1983, these programs will account for 46 percent of DOD's budget.

Specifically we will address:

--Where is the funding going?

--What is being acquired?

--How well selected program budgets submitted to the Congress for approval actually represent the funding requirements for those particular programs?

--How much progress DOD has made in stabilizing its major acquisition process?

This last point is not directly related to the budget but does have budgetary implications. In the past, major weapons programs have experienced problems which have resulted in fewer systems being procured at greater than anticipated costs. By stabilizing and improving the entire acquisition process, DOD officials hope to create an environment more conducive toward acquiring the systems needed within fiscal constraints.

At the conclusion of this chapter are questions about some problems noted in the chapter. They could be posed to DOD officials during the congressional review process.

WHERE IS THE FUNDING GOING?

Four major appropriation titles constitute DOD's investment accounts--Procurement, RDT&E, Military Construction, and Family Housing. In fiscal year 1980 these four account categories totaled $52.6 billion. In fiscal year 1983, they received $110.2 billion, an increase of $57.6 billion, or 110 percent, since fiscal year 1980.

Funding for Defense Investment
Total Obligational Authority

	FY 1980	FY 1981	FY 1982	FY 1983	Increase FY 1980-83 Amount	Increase FY 1980-83 Percent
	(billions)					
Procurement	$ 35.3	$ 47.7	$ 64.1	$ 80.3	$ 45.0	127
(RDT&E)	13.5	16.6	20.1	22.8	9.3	69
Military Construction	2.3	3.4	4.9	4.5	2.2	96
Family Housing	1.5	2.0	2.2	2.6	1.1	73
Total	$ 52.6	$ 69.7	$ 91.3	$110.2	$ 57.6	110

Note: Totals may not add up due to rounding

Of the $57.6 billion increase in the investment accounts since fiscal year 1980, $54.3 billion, or 94 percent of the increase, has been in the Procurement and the RDT&E accounts. At the same time, these two appropriations categories combined have more than doubled over the period. In fiscal year 1983, they have totaled $103 billion. In the Procurement accounts, the Navy has received the largest amount of funding in each year since fiscal year 1980 and has also received the largest dollar increase over the period. Within the RDT&E accounts, the Air Force has received the greatest amount of funding in each of the years as well as the largest dollar increase over the period.

Total Obligational Authority
Procurement and RDT&E Funding by Service

	FY 1980	FY 1981	FY 1982	FY 1983	Increase FY 1980-83 Amount	Increase FY 1980-83 Percent
	(billions)					
Procurement:						
Army	$ 6.5	$10.5	$13.9	$ 15.7	$ 9.2	142
Navy	15.6	20.1	26.1	35.6	20.0	128
Air Force	12.8	16.8	23.6	28.1	15.3	120
DOD agencies	.3	.3	.5	.9	.6	200
Total	35.3	47.7	64.1	80.3	45.0	127
RDT&E:						
Army	2.8	3.1	3.6	3.9	1.1	39
Navy	4.6	5.0	5.8	6.1	1.5	33
Air Force	50.0	7.1	8.9	10.7	5.7	114
DOD agencies	1.1	1.3	1.7	2.1	1.0	91
Total	13.5	16.6	20.1	22.8	9.3	68
Total	$48.8	$64.3	$84.2	$103.1	$54.3	111

Note: Totals may not add up due to rounding.

WHAT IS BEING ACQUIRED?

The fiscal year 1983 budget represented the administration's continuing commitment toward enhancing military capability which was begun with its additional funding requests for the fiscal years 1981 and 1982 budgets. Its priorities for fiscal year 1983 remained substantially unchanged. The overall priorities were:

--Fund readiness items (such as spares and support equipment).

--Fund sustainability items (such as added days of supply for ammunition).

--Selectively modernized force (such as procuring systems already in production at faster rates and procuring new systems whose development is sufficiently advanced to allow a rapid transition to production). The two most crucial modernization efforts for fiscal year 1983 involve the strategic nuclear forces and the Navy's force expansion.

In the remainder of this section, we will address what is being acquired. First we will discuss increasing readiness and sustainability. Then we will discuss modernizing the forces selectively.

Increasing readiness and sustainability

Within the investment accounts, funding readiness and sustainability means funding support items, such as spares, repair parts, ammunition, as well as other support equipment. Since fiscal year 1980, funding for such items has increased by 112 percent to about $22.7 billion in fiscal year 1983. This represents an increase of about $12 billion. Most of this increase--$11.4 billion--came during the first 2 years. In fact, while the Army and the Navy increased their fiscal year 1983 funding by 2 and 14 percent, respectively, the Air Force's fiscal year 1983 funding represented a 2-percent decrease over that for fiscal year 1982. Of the three services, the Air Force devotes the largest amount of resources for these items.

Funding for Spares, Repair Parts, Support Equipment and Ammunition
Total obligational authority

	FY 1980	FY 1981	FY 1982	FY 1983	Increase FYs 1982-83 Amount	Increase FYs 1982-83 %	Increase FYs 1980-83 Amount	Increase FYs 1980-83 %
	(millions)							
Army	$ 2.2	$ 3.3	$ 4.6	$ 4.7	$ .1	2	$ 2.5	114
Navy	2.8	3.8	5.0	5.7	.7	14	2.9	104
Air Force	5.7	8.6	12.5	12.3	(.2)	(2)	6.6	116
Total	$10.7	$15.6	$22.1	$22.7	$ .6	.03	$12.0	112
Percent of total procurement budget	30	33	34	28				

In fiscal year 1983, the total funding for spares, repair parts, support equipment, and ammunition represented 28 percent of the total procurement funding. The figures for fiscal years 1980, 1981, and 1982 were 30, 33, and 34 percent, respectively. The funding profile suggests that the services funded their most pressing readiness and sustainability needs during fiscal years 1981 and 1982. Having done so, they are focusing the additional increases in other areas, such as force modernization.

Selectively modernizing the forces

Selectively modernizing the forces means procuring systems in production at faster rates and procuring new systems whose development efforts are sufficiently advanced to allow a rapid transition to production. Measuring progress presents a difficulty. This difficulty is the long time it takes to translate additional budget authority into additional military capability. Unlike the operations and personnel accounts, which have a 1-year obligational period and spend very rapidly, the investment accounts have a multiyear obligational period and spend

more slowly. The shipbuilding and conversion accounts have a 5-year obligational period and are expended slower than any of the other investment accounts. The remaining procurement accounts have a 3-year obligational period. The multiyear aspect of the investment accounts make it too early to know precisely what the funding for investment during fiscal years 1981 and 1982 will actually provide.

While this limits the analysis somewhat, we can still develop indicators for what investment funding will provide by examining the number and the types of systems contracted for using fiscal years 1981-83 funding. We developed this data for major systems currently being acquired with funding from any of these 3 fiscal years. In the next paragraphs, we will discuss what this analysis shows for the Army. (Similar data for the Navy and the Air Force is contained in apps. II and III.)

For each category of major pieces of new equipment the Army will be procuring with its fiscal years 1981, 1982, and 1983 funding--aircraft, tracked combat vehicles, and missiles--the quantities currently projected to be procured are greater than were proposed by the previous administration. Four new systems --the AH-64 helicopter, the Division Air Defense (DIVAD)/Sgt. York gun, the Hellfire missile, and the Pershing II missile--began production during this period.

Department of the Army
Major Systems Under Contract by Fiscal Year Funding

Category	Fiscal year 1981	1982	1983	Total 1981-83	Prior Administration's proposal FYs1981-83
Aircraft:					
AH-1S	15	12	11	38	17
AH-64	-	11	48	59	52
C-12	6	6	12	24	6
UH-60 Black-hawk	80	96	96	272	248
Total	101	125	167	393	323
Tracked vehicles:					
IFV/CFV	400	600	600	1,600	1,191
M-1	569	665	885	2,089	1,556
DIVAD/ Sgt.York	-	50	96	146	36
M-88 re-covery vehicle	166	150	180	496	166
M-113 armored personnel carrier	-	-	520	520	(a)
Total	1,135	1,465	2,251	4,851	2,949
Missiles:					
Hellfire	-	680	3,971	4,651	1,715
Patriot	130	176	277	583	637
Multiple Rocket System	2,340	2,496	23,640	28,476	30,804
Perching II	-	21	-	21	39
Stinger	1,144	2,544	2,256	5,944	5,742
TOW anti-tank	12,000	12,000	12,000	36,000	36,000
Roland	110	-	-	110	400
Total	15,724	17,917	42,144	75,785	75,337

a/Program not proposed.

A similar analysis of both the Navy and the Air Force showed similar results. More specifically, the projected quantities to be procured under the Reagan Administration for the 3-year period are greater than those projections of the previous administration. Relatively few new systems are being procured; rather there are increases in quantities of systems already in production.

PROPOSED PROGRAM BUDGETS DO NOT REFLECT CURRENT PROGRAM NEEDS

The program budgets as submitted to the Congress represent the financial requirements for programs at a specific point in time. From that point until the Congress eventually approves the budget, events both within the program and outside the program can occur which affect the financial needs of the total program as well as that portion of the program being considered by the Congress.

To determine the types of budgetary problems such circumstances can cause, we looked at seven major weapon systems currently being developed and procured by DOD.

The major programs we selected were:

Army:	M-1 Tank
	Patriot Missile
	Division Air Defense (DIVAD)/Sgt. York Gun
Navy:	CG-47 AEGIS Cruiser
	AV-8B Harrier Aircraft
Air Force:	MX Missile
	Air Launched Cruise Missile (ALCM)

In selecting these programs we chose systems with large procurement requests for fiscal year 1983. (Each program selected was among each service's largest 10 procurement programs in fiscal year 1983). Our sample was chosen to include both mature systems, such as the CG-47 AEGIS Cruiser, and systems entering production, such as the DIVAD/Sgt. York and the AV-8B. Another selection criterion was that the system's total fiscal year 1983 program request include funding from a variety of accounts, such as the AV-8B, for which procurement, development, and construction funding was requested.

Our analysis of these programs' fiscal year 1983 budgets showed two major potential difficulties which are budget related. These involve overall program budgetary synchronization and efficient funding utilization. From our sample, the ALCM, the MX, and the CG-47 AEGIS Cruiser programs experienced some synchronization difficulties. Synchronization is the effective and efficient coordination of related budget requests across budget accounts. Also, in the DIVAD/Sgt. York and the CG-47 AEGIS Cruiser programs, more efficient funding usage was possible. We will discuss the results of each case where difficulties arose in the following paragraphs.

Budgetary synchronization difficulties arise outside the program and within the program. Events outside the program office caused synchronization difficulties on the ALCM, the MX, and the CG-47 AEGIS Cruiser programs. Events within the program caused synchronization difficulties on the ALCM programs.

ALCM

The ALCM is a small, long range, air-to-ground cruise missile designed to provide bombers with the ability to attack ground targets without flying directly over the targets. The ALCM will be carried on B-52G and H aircraft as well as B-1B aircraft. Its fiscal year 1983 proposed budget request went out of synchronization with its current needs when Air Force officials decided not to arm B-52Gs and B-1Bs with ALCMs at the same time. Rather these officials decided to use B-1Bs as ALCM carriers only after the B-52Gs have been retired early in the 1990s. Consequently, the ALCMs already under contract will be sufficient to meet the program's immediate needs.

Another factor within the program itself also affects the program's requested budget. This is the scheduled development and production of an improved ALCM. The fiscal year 1983 ALCM buy is expected to be the final contract for the current version. The planned introduction of new and improved versions of the ALCM makes it questionable to continue producing a surplus of the current model. The Air Force, for example, plans to introduce an improved missile engine beginning with the fiscal year 1984 production buy. The Air Force also plans on introducing an improved version of the ALCM which will survive more frequently than the current model. Air Force and Office of Secretary of Defense (OSD) officials acknowledge they would prefer to produce the improved ALCM as soon as possible and phase out production of the current model.

The program synchronization problems make it prudent to reduce the proposed procurement of current model ALCMs to bring the program into harmony with the B-52 modification program schedule and plans for acquiring an improved ALCM. We reported this information to both the House and Senate Appropriations Committee staffs in early September 1982. Final congressional action reduced the request by 110 missiles and $112 million. The reduction was designed to phase out production of the current version in an orderly fashion.

MX Missile

The MX missile is being developed as the successor to the existing Minuteman force. As such one of its objectives is that it be placed in a fashion which will protect it from attack. This objective is proving to be difficult to achieve. The protection is anticipated being needed in the future as the Soviets improve their intercontinential ballistic missiles.

Numerous changes have been made in the plans for housing the MX missile. Each change requires numerous recalculations and changes in budget estimates and plans. When many changes are made as has been the case with the MX missile, it is difficult to keep the budget plan synchronized. It is difficult to be sure that all of the items that need to be in the budget are indeed there and that they are in the right plan and estimated appropriately. For example, the budgets for fiscal years 1980, 1981, 1982 and 1983 are each based on different schemes for housing the MX missile. The latest proposal for housing the missile created the following synchronization problem for the budget plan.

The budget request for fiscal year 1983 assumed that the initial MX missile would be deployed using the interim scheme of placing the missiles in Minuteman silos. However, on November 22, 1982, the President proposed deploying MX missiles in a "Dense Pack". This would entail placing the missiles within a 30-square mile area near Cheyenne, Wyoming.

Budget synchronization problems surfaced almost immediately. The Government does not own all the land necessary to carry out the proposal. The Military Construction Appropriations for fiscal year 1983 contained funds for support facilities, but not for acquiring land for the "Dense Pack". Given the leadtimes involved for constructing operational facilities, it will be most difficult to acquire the land and complete necessary construction and still meet the MX's scheduled initial operating capability milestone of December 1986.

Based on these facts and general concern over the uncertainty surrounding where and how the MX will be housed, the Congress deleted the entire procurement request for fiscal year 1983. The reason for its action was to synchronize the production more closely with a more realistic expectation of when facilities will be constructed to house the missiles.

CG-47 AEGIS Cruiser

This cruiser is a ship armed with guided missiles that can provide fleet protection against air, surface, and underwater threats. The Navy plans to procure by fiscal year 1987 a total of 24 ships at a total estimated cost of $27,583.4 million.

The CG-47 AEGIS Cruiser program budget accounts are not sufficiently synchronized to construct and have operational a major training facility by January 1986 as initially planned. Currently the fiscal year 1983 appropriation contains $10.8 million for constructing the building which will house the training equipment. However, the funding for the equipment which was initially contained in the budget request was not contained in the fiscal year 1983 appropriations. Program officials say the equipment which was to be procured with the fiscal year 1983 funding consists of complex and sophisticated computerized simulators which will require 3 or more years to develop, acquire, and install. The construction of the building is expected to take about 1-1/2 years and be completed by February 1985. If funding for the equipment is delayed to fiscal year 1984, the facility will not become operational until at the earliest, January 1987.

This situation arose because the different appropriation accounts required to fund the facility became unsynchronized. The building equipment and training equipment are funded from two separate budget appropriation accounts. The basic CG-47 AEGIS Cruiser program is funded in a third one. The building construction funding comes from the Navy Military Construction appropriations account, funds for the training equipment are contained in the Navy Other Procurement appropriations account, and the basic CG-47 AEGIS program funds are in the Navy Procurement appropriations account.

In addition, the Congress also reduced the CG-47 AEGIS Cruiser fiscal year 1983 appropriated amounts for the program manager's growth reserves by $84 million. The Congress reduced similar requests on seven other shipbuilding programs, such as the battleship conversion program. The intent of this action is to monitor future cost growth by requiring that the Navy submit

specific cost growth requests to the Congress. By so doing, this should allow more efficient use of fiscal year 1983 funds, since unneeded funds will not be authorized and appropriated.

DIVAD/Sgt. York

The DIVAD/Sgt. York is a self-propelled gun designed to provide defense against air attack and replace the Vulcan. It is expected to provide an effective counter to helicopter threat and fixed wing aircraft.

In analyzing the fiscal year 1983 request, we observed an opportunity for more efficient use of the funding. The fiscal year 1983 request includes $84 million for management reserves. Given the funding level for management reserves which had been considered sufficient in the past, the fiscal year 1983 request seemed somewhat overstated. We reported this concern to both the House and Senate Appropriations Committee staffs in late August 1982. The final fiscal year 1983 appropriations for the DIVAD/Sgt. York program deleted $50 million that was requested for management reserves.

From our analysis of the ALCM, MX, and CG-47 AEGIS Cruiser programs, it is clear that not infrequently program changes necessitate changes in proposed budgets. Frequently these changes affect the program budgets being considered by the Congess. In some instances, the services report the changes to the Congress. For example, consider the M-1 tank program's fiscal year 1983 request. The initial submission requested funds for 776 tanks. Subsequently the program office proposed and developed a plan whereby the Army would procure 855 tanks through some internal reprogramings and transfers from prior years' funds. The Congress approved the revised program when it approved the fiscal year 1983 DOD appropriations. However, such updates are not the rule, as our work on the ALCM, MX, and CG-47 AEGIS cruiser programs has shown. Establishing a more systematic procedure for such feedback mechanisms is both desirable and necessary. Otherwise, the Congress must rely on rather erratic procedures for identifying where the proposed budgets no longer adequately represent program needs.

Spares, repair parts, and ammunition problems

For the past several years, we have studied the services' management of spares and repair parts. We also reviewed their annual ammunition requests to determine whether the requested budget amounts reflect the most current service needs. From ongoing and recently completed efforts such as these, we

identified problems specifically related to the budgetary process, namely, estimation problems, synchronization problems, and problems with efficient and effective funding utilization.

Difficulties in estimating spares, repair parts, and ammunition requirements

Because item requirements are continually "moving targets", the services cannot be certain which aircraft spares and repair parts to buy until months after their initial budgets are submitted. Recognizing this, the services continually update their requirements and actual item procurements are based on the latest requirements information available. This process fosters substantial differences between specific items and quantities used in the budget formulation and subsequent procurement plans. The differences include both increases and decreases in originally budgeted amounts. The following examples illustrate this point.

From a list provided by Air Force officials, we selected F-100 engine items from the items and quantities included in the fiscal year 1982 budget submission and still planned for procurement in fiscal year 1982. [1/] We then compared the initial requirements for these items with their revised requirements. We found substantial differences. Budget backup data showed, for example, that about $11.3 million was included for the procurement of 10,109 external nozzle segments for the F-100 engine. However, because of subsequent aircraft modifications, there is no longer a requirement to procure these items during fiscal year 1982.

We found in the Army and Air Force instances when the data on which ammunition requests were based had been superseded. [2/] The Army's $1.1 million fiscal year 1983 request for 60,000 violet smoke grenades was not needed because the Army initially underestimated its inventory by 60,000 grenades. This difference, based on more current inventory data, was identical

---

1/"Requirements and Production Capabilities Are Uncertain for Some Air Force, Navy, and Marine Corps Aircraft Spares and Repair Parts" (GAO/PLRD-82-77, July 22, 1982).

2/"Recommended Reductions to Fiscal Year 1983 Ammunition Procurement and Modernization Programs" (GAO/PLRD-82-92, Aug. 10, 1982).

to the quantity requested in fiscal year 1983 and precluded the need for the fiscal year 1983 request. The Air Force's request of $29.4 million for BDU-33 practice bombs could be reduced by about $5 million because more recent consumption forecasts reduced total needs.

We also reported instances in both the Navy and the Army when the requirements supporting the requests had changed since the budgets were submitted. In the Navy, $2 million for jet-assisted takeoff motors is not needed, because the planned consumption rate used in establishing the requirements submitted in the budget request was lowered by the Chief of Naval Operations. The Army can reduce by $6.4 million its request for 7.62 mm. ammunition used in machine gun training. A sharp decrease in training requirements resulted in the existing inventory and expected deliveries being more than enough to meet needs through the end of fiscal year 1983.

Budget requests are not always coordinated

Coordination of related budget requests across budget accounts is necessary for the budget to be synchronized. A review of portions of the Army's 30 mm. ammunition request supporting the AH-64 helicopter reveal that the request is not synchronized with the expected delivery of the aircraft. 3/ We believe the fiscal year 1983 request would provide an excessively large quantity of ammunition for the AH-64 helicopter, before the first one is delivered in fiscal year 1984.

Funds for spares, repair parts, and ammunition can be used more efficiently

Funds can be used more efficiently by either reducing the costs of acquiring spares, repair parts, and ammunition or eliminating purchases in excess of requirements. One approach for reducing spares acquisition costs is to combine spares orders with the order for the same item that goes into the production line. For example, we estimated that using combined

---

3/Ibid.

purchasing to buy F/A-18 investment spares may reduce program costs by $600 million to $1.2 billion. The Navy currently has a program underway to validate the savings potential. [4]/

Funds will not be used efficiently if inventories already exceed or will exceed requirements when items in the proposed budget are purchased. Instances of this situation were identified in both the Navy and the Army. [5]/ For example, in the Army, $120.6 million for 10 ammunition items is not needed, because requirements can be satisfied with inventory already on hand or on order. The Navy can reduce its ammunition requests for 7 items by $24 million, because inventory on hand will exceed requirements or because large quantities funded in prior years but not yet delivered can be used.

STABILIZING THE ACQUISITION PROCESS

As a special addition to our review of large dollar acquisition programs, we looked at the issue of "stability" within the acquisition process. Although we could identify no generally accepted definition, we found general agreement that program stability is an essential part of efforts to bring full economy and efficiency to the DOD acquisition process. In fact, the ultimate success of DOD's Acquisition Improvement Program depends largely on efforts to stabilize procurement programs.

One way to understand the meaning of stability is to identify the key factors that indicate whether or not a program is stable. These are factors, such as program costs, required quantities, and time schedules, that are likely to change and deter efficient program progress. In program and budget reviews conducted soon after the Acquisition Improvement Program was initiated, service Secretaries were required to explain and

---

[4]/"Combined Procurement of Spare Parts and Production Components Will Reduce Defense Weapons Systems Costs" (GAO/PLRD-83-17, Dec. 15, 1982).

[5]/(GAO/PLRD-82-92).

justify why certain key factors varied from program baseline estimates established at Defense System Acquisition Review Council (DSARC) Milestone II. [6]/

We used these same key factors to identify whether or not the systems currently included in the Selected Acquisition Reports (SARs) are stabilizing. We compared program cost, program quantity, and estimated development times (the length of time needed to achieve initial operating capability) at three points in time: DSARC II, December 1981, and December 1982.

We examined these programs from two different perspectives:

--First, we focused on changes reported between December 1981 and December 1982. The present administration introduced significant changes in many acquisition programs. These changes first appeared in the December 1981 SARs. By examining the rates of change over this period, we will get an indicator as to whether a specific program is stabilizing. By focusing on the changes since December 1981, this analysis is not biased by any difficulties reported before that time.

--As a corroborating effort, we compared the changes experienced between December 1981 and December 1982, with

the experiences in the programs since individual baseline estimates were established at DSARC II. In effect, this analysis considered the total program history since its DSARC II decision. Under this approach, a program was considered to be stabilizing if the rates of growth were slowing down.

The primary analysis

Using the first approach described above, we focused attention on the most recent program changes. By disregarding variances occurring before January 1982, we emphasized the effect of changes in estimates made at the start of the current administration. We collected data for 41 systems included in both the December 1981 and the December 1982 SARs. (See app. IV for list of systems.)

---

[6]/Milestone II is the decision point for establishing total program baseline estimates.

Of the 41 systems, all experienced some total program cost changes during the period. For 23 of the programs, these cost fluctuations exceeded ± 5 percent of the December 1981 estimates. At the same time 21 programs showed changes in the total quantity expected to be procured throughout the life of the program. Development schedules also slipped on 12 programs. The following table shows which programs fall into each category--program cost changes greater than ± 5 percent, program quantity changes, and development schedule slippage--along with the percent variance in each category between December 1981 and December 1982.

Systems Reporting Program Changes in Unit Cost, Quantity, and Development Time Exceeding ±5 Percent

Systems	Percent change				Programs with changes exceeding	
	Program cost (note a)	Program quantities (note b)	Unit cost (note c)	Scheduled milestones (note d)	±5 percent	±10 percent
Army:						
Patriot	9.1	-	8.88	1	X	
Pershing II	(2.7)	(1)	(1.22)	-		
Hellfire	9.0	18	(16.67)	-	X	X
UH-60A	(5.7)	-	(5.71)	-	X	
AH-64	(0.1)	15	(13.32)	-	X	X
FVS	(12.0)	-	(11.86)	-	X	X
Copperhead	(50.6)	(77)	133.33	10	X	X
Navy:						
F-14A	(5.7)	-	(5.73)	-	X	
F-18	0.3	-	0.24	4		
LAMPS	22.3	(1)	17.43	-	X	X
CAPTOR	(7.1)	(10)	2.63	-	X	
HARM	34.9	13	19.44	1	X	X
Sparrow	8.8	(4)	10.53	14	X	X
Harpoon	(3.6)	4	(6.80)	-	X	
Sidewinder	37.4	21	11.11	-	X	X
Tomahawk	(8.3)	-	(8.41)	15	X	X
TRIDENT missile	(5.4)	(11)	6.33	-	X	X
TACTAS	0.1	2	(1.87)	6	X	
SSN-688	21.1	11	9.34	-	X	X
FFG-7	(31.1)	(17)	(17.26)	-	X	X
CVN72/73	(2.0)	-	(2.04)	(1)		
AV-8B	(4.4)	(2)	(2.10)	(1)		
Air Force:						
F-15	2.3	4	(1.64)	-		
F-16	6.3	9	(2.25)	-	X	
E-3A	9.3	-	9.30	-	X	
EF-111A	5.9	-	5.88	1	X	
Maverick	22.0	-	25.00	17	X	X
DSCS	4.2	-	4.18	1		
ALCM	(46.4)	(65)	51.35	-	X	X
GLCM	8.7	-	8.72	-	X	
NAVSTAR	(1.4)	-	(1.41)	3		
Sparrow	(48.0)	(59)	25.00	14	X	X
Sidewinder	(7.3)	(5)	(1.40)	-	X	
HARM	(17.4)	(37)	28.57	-	X	X

a/Cost changes ranged from -$3,743.5 million to $5,109.5 million.
b/Quantity changes ranged from -34,756 units to 6,576 units.
c/Unit cost changes ranged from -$166.8 million to $40.5 million.
d/Change was measured from scheduled initial operating capability milestone. Scheduled changes ranged from -1 month to 15 months.

The preceding table identifies 34 different systems. Of these, 27 systems experienced changes in excess of ± 5 percent of the December 1981 estimates. Sixteen of these reported changes exceeding ± 10 percent of the December 1981 estimates. We chose ± 5 percent as a cutoff point because we believe smaller program changes are not likely to indicate major program turbulence. For these 34 systems, the unit costs reported changed for all programs. Sixteen of the 27 systems reporting changes exceeding ± 5 percent also reported unit cost increases. On 8 of these 16 systems--Copperhead, LAMPS, Sparrow (Navy), Trident missile, FFG-7, ALCM, Sparrow (AF), and HARM (AF)--the quantities expected to be procured throughout the program also decreased. For these 8 systems, we observed fewer will be procured, but on an individual unit basis those that are procured will cost more.

Considering the 41 systems from a unit cost perspective (see app. VI for details), we observed that all of the 41 systems reported unit cost changes. For the 22 systems reporting unit costs increases, 15 reported increases in excess of 5 percent of the December 1981 estimate. For the 19 systems reporting unit cost decreases, 8 programs reported decreases exceeding 5 percent. Conversely, 18 of the 41 systems reported unit cost changes within ± 5 percent.

The corroborating analysis

To corroborate our primary analysis, we looked at stability from a different perspective. Since no methodology existed, we designed an approach to assess the progress made in stabilizing DOD's acquisition process. First we identified the program's baseline cost and, quantity and schedule estimates. We then compared these estimates with the estimates reported in the December 1981 SARs. From this, average rates of growth for program costs, unit costs, and schedules were developed. We then compared these figures with the experiences reported during the most recent 12-month period.

We performed a similar analysis using the same program data for two additional cases. We compared the experiences of the most recent 12-month period with the rates of growth between Milestone II and December 1982. Finally, we compared the average rates of growth since Milestone II with the average rates of growth between Milestone II and December 1981. We concluded that a program was stabilizing if in each of the comparisons the rates of growth were decreasing or remaining constant.

The results generally corroborated the conclusions in the previous analysis. Overall 18 of the 41 systems were not stabilizing under the stated criteria. These 18 systems are listed in the following table.

Systems Shown as Not Stabilizing Under Corroborating Analysis

Army	Navy		Air Force
Patriot	F-18	Sidewinder	E-3A
MLRS	LAMPS	Tomahawk	Maverick (IIR)
Copperhead	HARM	Trident I missile	ALCM
	Sparrow	TACTAS	Sparrow
	Harpoon	SSN-688	HARM

All but two of these programs--MLRS and F-18--are among the 27 systems experiencing program changes in excess of ± 5 percent.

CONCLUSIONS

--The Department of Defense has generally followed its priorities in terms of how it is allocating its investment resources.

--With the systems the services have placed under contract in fiscal years 1981, 1982, and 1983 funding, greater progress has been made in selectively modernizing the forces than had been proposed under the previous administration.

--With respect to stablizing the acquisition process, the progress being reported for those systems contained in the SARs is disappointing.

--Problems in synchronizing the funding needs for the various components of a program, and the problems in accurately estimating funding needs result in a budget before the Congress where requests do not match current needs.

--The management practice of creating excessively large contingency reserves for programs is not an efficient and effective method of using appropriated funds.

QUESTIONS FOR USE DURING CONGRESSIONAL REVIEWS

Congressional authorizing and appropriating subcommittees and committees may wish to ask the services the following questions during their budget reviews.

Supporting the investment in defense

1. Between fiscal years 1980 and 1983, the procurement funding for readiness and sustainability related items increased by approximately $12 billion.

   --What indications does DOD have to show whether readiness and sustainability within the forces are improving?

   --What level of procurement funding will be necessary to achieve and maintain the desired levels of readiness and sustainability?

2. Since fiscal year 1980, each service has increased the number of major items budgeted for procurement.

   --What is the funding impact on O&M and Procurement accounts?

   --What level of funding will be required to support, operate, and maintain today's investment in the future?

3. We analyzed a selected group of major acquisition programs and found the Congress was reviewing an outdated budget request. After budget data was updated, the Congress decided to reduce the proposed fiscal year 1983 appropriations.

   --What actions does DOD plan to ensure that the budget being reviewed represents the program's most current needs?

Stabilizing the acquisition process

1. DOD considers stabilizing the acquisition process as a prerequisite to achieve the full benefit of its Acquistion Improvement Program.

   --In spite of the increased funding for weapons programs since fiscal year 1980, GAO observed indicators of instability in almost half of the systems reported in both the December 1981 and December 1982 SARs. Why are so many programs still showing signs of instability?

CHAPTER 5

MILITARY PERSONNEL APPROPRIATIONS: PLANNING TO PAY THE FORCE

While total DOD appropriations have increased almost $100 billion, or 70 percent, since fiscal year 1980, personnel and personnel-related expenditures, such as housing, relocation, and transportation costs, have risen at lower rates and represent a smaller proportion of the defense budget in fiscal year 1983 than in fiscal year 1980. The following chart illustrates this trend.

Military Personnel and Related Appropriations
Total Obligational Authority

Appropriation	FY 1980	FY 1981	FY 1982	FY 1983
	billions			
Military Personnel	$31.1	$36.7	$43.0	$44.9
Retired Personnel	11.9	13.7	15.0	16.5
O&M (note a)	24.5	26.7	28.8	31.4
Total	$67.5	$77.1	$86.8	$92.7
Percent of DOD appropriations	47.5	43.9	40.5	38.6

a/Includes civilian employees, training and other personnel-related funds, and Guard and Reserve O&M and excludes the Civilian Health and Medical Program of the Uniformed Services.

The decline in the ratio of the personnel budget to the total defense budget has occurred even while these appropriations have increased more than 37 percent. The primary reasons for the increase are:

--Personnel transportation costs have increased.

--Service members have received large pay increases, bonuses, and new allowances to offset housing and relocation costs.

--End strengths have increased.

--Retired pay appropriations have grown by more than 35 percent, largely due to the almost 30-percent cost-of-living increase since fiscal year 1980.

--The personnel-related O&M appropriations, including the total civilian pay, have increased by more than 40 percent because of increased military training and civilian pay costs.

CHANGES AFFECTING MILITARY PERSONNEL SINCE 1980

Military personnel appropriations contain three sections: Active, Guard, and Reserve. The following chart indicates the appropriations for each component's categories.

Military Personnel Appropriations
Total Obligational Authority
(note a)

Active component categories:	FY 1980	FY 1981	FY 1982	FY 1983
	(000,000 omitted)			
Basic Pay	$19,324	$21,848	$25,487	$25,868
Basic Allowance for Quarters	2,327	2,635	3,106	3,156
Permanent Change of Station	1,782	2,284	2,747	3,155
Subsistence	2,186	2,529	2,927	3,101
Social Security Tax Payments	1,172	1,407	1,682	1,715
Special Pays	680	1,113	1,146	1,283
Allowances	830	771	834	866
Variable Housing Allowance	(b)	616	694	704
Incentive and Hazardous Duty Pays	250	355	464	461
Separation Payments	282	272	307	316
Cadets	75	85	95	96
Other military personnel costs	14	15	16	16
Total (includes reimbursables)	28,923	33,930	39,504	40,739
Reserve & Guard component categories:				
Unit & Individual Training	1,885	2,275	2,760	2,935
Other training and support	573	866	1,147	1,673
Total (direct dollars)	2,457	3,141	3,907	4,608
Total	$31,378	$37,071	$43,411	$45,347

a/Total may not add due to rounding.
b/Not authorized in FY 1980.

As personnel and personnel-related appropriations have increased and as the economy has declined, the outlook for staffing the force has also improved. The following table shows that over 68 percent of eligible personnel reenlisted in fiscal year 1982, up from about 55 percent in fiscal year 1980. Among career regulars, almost 82 percent reenlisted, up from about 70 percent in fiscal year 1980. At the same time recruit quality has improved. All services have exceeded congressionally mandated goals to improve the number of high mental category recruits; high school graduates [1]/ account for 82 percent of the recruits in fiscal year 1982 compared with 68 percent in fiscal year 1980.

DOD Accession and Retention Trends (note a)

	FY 1980		FY 1981		FY 1982	
	Number	%	Number	%	Number	%
First enlistments	355.6		320.7		297.8	
Reenlistments						
First term	64.8	39.1	69.4	43.0	77.3	51.9
Career	125.5	70.5	132.1	76.6	147.2	81.6
Total	190.3	55.4	201.5	60.3	224.5	68.2

a/Figures in each "number" column are in thousands.

While the picture is much improved (this situation, according to DOD, is due to better pay and economic conditions), there is still concern for future years. Because the proportion of the 18- to 24-year old population is projected to decline for the next 10 years, the services are still concerned about attracting and retaining quality personnel.

Although the services are staffed at virtually 100-percent levels and have been since the introduction of the All-Volunteer Force, occupation imbalances still exist and may continue if economic conditions improve. The following table provided by the Army indicates some fiscal year 1982 Army occupations which were overstaffed or understaffed and the availability of bonuses for enlistment or reenlistment in these occupations.

---

[1]/Includes those with post-secondary education and excludes nondiploma graduates with equivalency certificates.

Selected Army Imbalanced Occupations

Shortage occupation:	End of FY 1982 Authorization	Inventory	Percent	Bonus to Enlist	Bonus to Reenlist
Fighting vehicle infantryman	264	57	21.5	x	x
Air defense artillery short-range missile crewmember	2,643	2,107	79.7		
Air traffic control radar controller	854	717	83.9	x	x
Pershing missile crewmember	2,162	1,847	85.1	x	x
Power generating equipment repairer	2,460	2,136	86.8		
Electronic warfare/signal intelligence analyst	1,979	1,831	92.5	x	x
Overage occupation:					
Radio teletype operator	7,247	7,895	108.9	x	
HAWK missile crewmember	1,920	2,093	109.0	x	
Programer analyst	1,251	1,364	109.0		x
Medium helicopter repairer	1,499	1,633	108.9		
Attack helicopter repairer	1,799	1,967	109.3		
Finance specialist	3,673	4,059	110.5		

These are examples of the 30 percent of Army occupations overstaffed or understaffed (51 are overstaffed and 64 are understaffed). According to Army personnel, an occupation is imbalanced when it is overstaffed or understaffed by more than 5 percent. As discussed in our 1982 report 2/ on the defense budget, the services had shortages and surpluses of personnel. We concluded that, because the services must compete with

---

2/"Defense Budget Increases: How Well Are They Planned and Spent?" (PLRD-82-62, Apr. 13, 1982).

private industry to attract and retain people having marketable occupations, their use of across-the-board pay increases to counter occupation imbalance problems was not cost effective and would not meet the demands of the 1980s. We suggested that each occupation be managed individually and that pay and benefit packages be tailored to attract and keep sufficient people to perform critical jobs.

AREAS OF CONCERN IN THE MILITARY PERSONNEL APPROPRIATIONS

Our review of the personnel and related appropriations indicated that the largest increase occurred in the military personnel appropriations, which increased by $14 billion, or 45 percent, since fiscal year 1980. Because the military personnel appropriations represented the largest growth and contributed significantly to the total increase, we examined them in greater detail. We assessed the services' personnel budget emphasis and highlighted areas of large cost growth to determine if the budget requests are consistent and reasonably accurate and provide the Congress with the information needed to monitor these programs. We identified four categories for which we believe the services have not submitted sufficient documentation or have not fully considered the effects of other budget or economic decisions. The four categories are Basic Pay, Permanent Change of Station, Special Pays, and Variable Housing Allowance.

SERVICES DID NOT REQUEST SUFFICIENT FUNDS FOR BASIC PAY

Between fiscal years 1980 and 1983, basic pay appropriations have increased by more than 30 percent. Because of the unexpected recruiting successes and improved reenlistment rates, the fiscal year 1982 appropriations were not enough to fund basic pay. In May 1982, the Army requested authority to reprogram over $83 million to meet the cost for higher-than-anticipated average daily personnel strengths and higher average pay caused by unanticipated retention rates. About $61 million of the reprograming was for basic pay. The Army also sought to exceed its fiscal year 1982 authorized end strength by more than 4,000 personnel.

In February 1982, the Navy requested $62.3 million in Military Personnel supplemental funds to maintain the fiscal year 1982 Navy personnel program. These funds included $7 million for the Basic Pay account that the Congress had not appropriated originally. The Navy stated that, without the supplemental, overall strength levels would have to be reduced and other changes would be necessary.

The Congress allowed the Army's reprograming, authorized an end-strength increase of 2,200 personnel, and granted the Secretary of Defense the authority to exceed the authorized end strength for each of the active components by not more than 0.5 percent. But the Congress refused to fund the Navy's $62.3 million request; the Senate report stated that the request was vague and inaccurate and failed to meet the criteria for funding.

The Congress authorized active end-strength increases of 20,000 personnel for all services for fiscal year 1983 and the services requested basic pay appropriations of $25.9 billion, an increase of $380 million, or 1.5 percent over fiscal year 1982. (The request did not include funding for the 4-percent pay raise effective Oct. 1982.)

In view of the higher retention levels, the Secretary of Defense's authority to exceed authorized end-strength levels, and the 20,000 end-strength increase authorized for fiscal year 1983, we believe the services have underestimated their basic pay requirements. This underfunding could result in more reprograming or supplemental requests to meet military personnel pay needs. Because the estimates are prepared and submitted more than 7 months before the beginning of the fiscal year and the recruiting market is so volatile, this underfunding is probably a consequence of the lack of more current estimates provided to the Congress.

VARIABLE HOUSING ALLOWANCE FUNDING MAY NOT BE SUFFICIENT

The variable housing allowance, which is computed from unverified, member-reported housing costs, is potentially another underfunded account. In fiscal year 1982, the Congress appropriated $694 million to fund this allowance. But during the year the services needed an additional $46.8 million in supplemental appropriations to fund increased housing allowance rates. Several factors influenced the variable housing allowance appropriations including the difficulty of predicting the costs of housing and the relationship of the variable housing allowance to the quarters allowance.

The variable housing allowance, computed for housing costs in excess of 115 percent of the basic allowance for quarters, is designed to more adequately compensate military personnel residing off post in high-cost areas. To determine the housing costs in high-cost areas, DOD uses a housing survey. However, the survey asks military personnel to report what their housing costs are--including all utility costs except telephones--but does not require evidence of those housing costs, nor does it compare the results of the survey with appropriate housing costs

for civilians. We have reported the effect these undocumented housing costs have on establishing housing allowance rates. [3/] In fiscal year 1982, after the survey found higher costs than anticipated, the services requested $46.8 million in supplemental appropriations.

In the fiscal year 1983 continuing resolution, the Congress recognized the relationship between the variable housing allowance and the quarters allowance. It appropriated $704 million for the former--the amount the services requested and provided that the fiscal year 1983 variable housing allowance should be computed as if the quarters allowance had been increased by 8 percent, but the Congress actually increased the quarters allowance by only 4 percent. Thus, the housing allowance rates will be determined by the unverified housing cost survey and will be paid on costs which are more than 119.4 percent of the quarters allowance.

While DOD's survey has not been statistically verified, housing costs are increasing at a higher rate than the Consumer Price Index. Because the variable housing cost survey data were not available until October 1, 1982, and these data justify larger variable housing allowances than were paid in fiscal year 1982, the fiscal year 1983 budget is also understated and will not cover total housing costs. DOD should assure the Congress that its survey is an accurate sampling of military housing costs and the housing costs are comparable to appropriate civilian housing costs before requesting reprograming or supplemental actions in the future.

DOD does not believe that comparisons with civilian housing costs are valid because military personnel are distributed in different geographic areas than the general population, the private sector analyses available include new construction costs as well as existing housing costs, and the private sector cost data are very limited and do not measure costs in military housing areas. In addition, DOD believes that its housing survey is more comprehensive than any private sector survey. As for the validity of the gathered data, DOD cites a Defense Audit Service report which verified a sample of responses to the housing survey. It found that while the verified data showed discrepancies from the gathered data, the margin of error was small and statistically insignificant.

Our views on these points have been discussed in our 1981 report on the variable housing allowance.

[3/] "Variable Housing Allowance: Rate Setting Criteria And Procedures Need To Be Improved" (FPCD-81-70, Sept. 30, 1981).

THE SERVICES DO NOT REQUEST THE TOTAL COSTS FOR BONUSES

The special pay category, which increased more than 89 percent since fiscal year 1980, contains money for targeted pays, such as proficiency pay, medical officer pay, sea pay, nuclear officer bonuses, enlistment bonuses, and reenlistment bonuses. Although the services make commitments to pay some bonuses to eligible personnel over a number of fiscal years, the annual appropriations reflect only the expenditures for the year and not total contractual costs.

Enlistment and reenlistment bonuses account for almost 60 percent of the special pay appropriations and 90 percent of the increase in special pay. The Congress enacted these bonuses to assist the services in attracting and retaining personnel in special occupations which are difficult to keep fully staffed. The authority to pay enlistment and reenlistment bonuses was to expire on October 1, 1982, but was extended through March 30, 1983.

In fiscal year 1983 the services requested appropriations to pay 39,000 enlistment bonuses, 13.6 percent more than in 1982. This represents one enlistment bonus for every 9.5 recruits. The Congress, concerned with these increases, limited the fiscal year 1983 appropriations for enlistment bonuses to $139.9 million, still almost $9.7 million more than authorized in fiscal year 1982, to pay about 35,000 bonuses.

The annual reenlistment bonus funding requirements for the budget year are reported to Congress, not the total costs for all new contracts entered into during the budget year. In fiscal year 1983 the services requested funds to pay over 100,000 additional reenlistment bonuses, almost 15 percent more than authorized in fiscal year 1982. The full costs of these new bonuses are not in the requests nor does the Congress require this information, but these costs would have resulted in the services awarding one reenlistment bonus for every two reenlistments and incurring costs totaling more than $1 billion in obligations for bonuses contracted for under new reenlistment agreements. Since the Congress does not require full funding for these bonuses, the services requested only 60 percent of this amount, about $590 million, the amounts they expected to expend during the fiscal year, in their budget submission for fiscal year 1983. The difference represents the out year costs for all new contracts.

The fiscal year 1983 continuing resolution reduced the services' request by over $103 million to $486 million and also required DOD to fund any cost-of-living increase out of the total amount appropriated. This amount is intended to fund the same number of bonuses as in fiscal year 1982 at the average

rate for that year. Thus, total new contractual obligations entered into in fiscal year 1983 should equal those for fiscal year 1982--$752.9 million.

Even though the Congress has allowed the services to use bonuses to attract and retain personnel in shortage occupations and has authorized increases in these incentives, DOD has not adequately demonstrated that bonuses are cost effective. While we have not determined the cost effectiveness of the bonuses, we have pointed out that DOD can improve the management of the bonus program. 4/ For example, if the services' budget requests contained total contractual funding for bonuses, the Congress could better assess the true costs of contractual obligations entered into each fiscal year.

DOD officials told us that they have reached an informal agreement with the armed services committees and will provide total contractual costs for reenlistment bonuses in future budget submissions.

Since bonuses are the services' means for targeting pay for shortages, bonuses' effect on occupation imbalances is relevant information for the Congress. Thus, the House Appropriations Committee has required the services to provide data on 20 imbalanced occupations with their fiscal year 1984 budget request. The services must critically evaluate the imbalanced skills, identify the causes, and propose cost-effective alternatives to the current military personnel management system to attract and retain the necessary personnel. This data, combined with budget requests which reflect total contractual costs, will give the Congress more information on the management effectiveness of the services' bonus programs.

PERMANENT CHANGE OF STATION FUNDING: THE LARGEST GROWTH SINCE FISCAL YEAR 1980

The Permanent Change of Station category in the Military Personnel Appropriations is divided into the following funding areas.

4/"Perspectives on the Effectiveness of Service Enlisted Bonus Programs" (FPCD-82-70, Aug. 23, 1982).

Permanent Change of Station Appropriations

Travel	FY 1980	FY 1981	FY 1982	FY 1983
	---------(000,000 ommitted)----------			
Rotational	$ 880	$1,097	$1,330	$1,487
Accession	236	341	410	483
Separation	280	361	391	461
Operational	208	280	315	355
Training	95	108	123	137
Nontemporary storage	51	58	61	61
Organized unit	30	38	43	47
Temporary lodging			72	122
Total	$1,781	$2,283	$2,746	$3,154

Note: Totals may not add due to rounding.

In fiscal year 1983, the services requested $3.1 billion for permanent change of station travel, a 77-percent increase over fiscal year 1980, and a 15-percent increase over fiscal year 1982. The services ascribed most of the increase to costs for accession, separation, and rotational travel; these costs account for $300 million of the increase.

The Permanent Change of Station account is influenced by many factors, including transportation costs, the number of troops deployed overseas, household goods weight allowances, and the services' personnel rotation policies. Costs vary among the services for airline fares, dependent travel, and household goods shipments.

Accession travel appropriations provide funds to relocate recruits from their place of entry in service to their first duty station. The services requested a $73 million increase, or 18 percent over fiscal year 1982, for almost 40,000 additional trips. Yet recent enlistment trends indicate that the number of non-prior-service enlistments have declined since fiscal year 1980. In addition, enlisted accession travel estimates do not appear to be consistent among the services. For example, Army's ratio of enlisted dependent accession travelers is almost twice as high as the next closest ratio in the Air Force and four times higher than either the Navy or Marine Corps. We did not determine the validity of these ratios.

The Army told us that its dependent accession travel costs are based upon historical experience. The primary reason for the difference in enlisted accession travel is that it has a

larger number of accompanied tour locations than the Navy and Marine Corps. In 1979, in an effort to improve retention, it implemented the Junior Enlisted Travel program to allow first term enlistees to take dependents overseas on 3-year tours. According to the Army, the program was well received but it increased the costs for the dependent accession travel account. However, the costs for enlisted dependent accession travel are still almost twice as high as similar costs in the Air Force.

Separation travel appropriations provide funds to relocate personnel when they are released or separated from the service. In this category, the fiscal year 1983 request has increased by $70 million, or 18 percent over the fiscal year 1982 appropriation, for 15,000 additional trips. This increase was requested while the services were experiencing record-high retention rates and were projecting even higher retention rates for fiscal year 1983.

Regarding these appropriations, the Army told us that a portion of this increase is the result of the large number of personnel in the 1980 recruits whose enlistment contracts end this year. Without increases in retention rates, separation travel will be higher in fiscal year 1983 than in 1982. However, retention trends indicate that retention rates have been higher than anticipated and the services did not update their fiscal year 1983 submissions to account for this trend. Thus, it appears that the fiscal year 1983 Separation Travel account may be larger than actually required.

In the rotational travel request--travel to, from, or between overseas points involving transoceanic travel--the projected number of trips does decrease. However, even though the fiscal year 1983 funding request estimated a decline of over 8,000 trips, it projected costs to increase more than $157 million, or 12 percent over fiscal year 1982 appropriations. Although we did not verify the fiscal year 1983 budget estimates for transporation costs, these costs increased most dramatically in this account.

As one way of reducing total defense budget requirements for fiscal year 1983, DOD offered to cut back the Permanent Change of Station account by $220 million. The cuts would be absorbed by extending present tours up to 3 months. The Congress, stating that the services' transfer policies result in too many moves at great expense, cut the account by over $496 million--the $220 million offered by DOD, plus $267 million for unfunded new or increased travel initiatives, and $9 million in program reductions.

The Congress' actions in this area may be the result of overfunding in the 1982 account. In February 1982, Army officials testified that they had estimated transportation costs to increase by over 13 percent in fiscal year 1982. In reality, transportation costs increased only 2 to 4 percent, and $60 million was available in the Change of Station account to help fund the underfunded Basic Pay account.

DOD has undertaken some initiatives that are detailed in DOD's Directive 1315.7, December 6, 1977, to control costs that have resulted in a savings of over $90 million for fiscal year 1982. We are currently studying the effectiveness of the services' change of station policies.

CONCLUSIONS

Military personnel appropriations are growing less rapidly than other DOD appropriations categories. The military services have met their recruiting and retention goals, improved the quality of recruits as measured by high school diploma and tests of mental quality, and have a fully staffed force. This achievement is commendable. However, the services could further improve their estimates of the costs for military personnel programs through better budget planning and through more realistic and consistent budget estimates.

In both the Basic Pay and the Variable Housing Allowance accounts, the services' fiscal year 1983 estimates do not reflect the changing funding environment. Basic pay is underestimated because estimates are made long before the beginning of the fiscal year and the pay raises provided to military personnel and the current economic conditions have encouraged high reenlistment rates. Those last two factors have also contributed to the recruiting success and the improved recruit quality experienced in recent years. As the enlistments and reenlistments increased, the services found they had not requested sufficient funding for fiscal year 1982 and requested supplementals or reprograming authority to fund the increased costs. The Congress provided some fiscal year 1982 supplemental funds, authorized reprograming, and granted some relief from end-strength ceilings. But the effects of these factors will probably continue into fiscal year 1983, and the services will again need to request congressional assistance or reduce other programs to finance any funding shortfalls.

The fiscal year 1983 Variable Housing Allowance account is also potentially underfunded. The services' requests for fiscal year 1982 supplemental funds were based on a statistical study which does not verify respondent costs or compare those costs to private sector housing costs. Thus, the accuracy of fiscal year

1982 rates is also questionable and fiscal year 1983 estimates are affected by these unverified rates. Since the variable housing allowance is determined by the recipients of the allowances, the rates must be measured against objective criteria to validate any increase.

The services' requests for enlistment and reenlistment bonuses have increased each year, even though recruiting goals have been exceeded, recruit quality has improved, and retention rates have been high. However, total contractual costs for these incentives have not been revealed in annual appropriations. Using these incentives to correct personnel shortages, the services have begun to manage their pay policies on an occupation-by-occupation basis but the Congress needs to know the total contractual costs for these incentives. DOD plans to provide this information in future budget submissions.

Furthermore, the estimated number of separation travel trips appear to be unrelated to recent retention rates, and accession travel trips are unrelated to recent recruiting trends. Estimates which are not consistent or are unrelated to previous years' experiences create doubt in the estimates' accuracy. Although the budget estimates show that the services are restraining the number of trips, particularly in operational and rotational travel, their cost estimates have increased substantially caused largely by new or increased initiatives and higher transportation cost estimates.

QUESTIONS FOR USE DURING CONGRESSIONAL REVIEW

Following are some questions the Congress may want to ask to ensure today's procurement investment is supportable tomorrow.

Funds for basic pay

1. DOD expects to increase active duty end strength by 130,000 between 1983 and 1987 to operate and maintain new high technology weapons systems. There are different estimates as to what increasing end strengths will cost. The Congressional Budget Office (CBO) estimates in its study on Army ground force modernization for the 1980s [1]/ that adding 100,000 more troops to the Army would cost $6.7 billion over the next 5 years assuming that the increases are phased in at steady annual rates. This covers pay and allowance and additional recruiting incentives needed to get more recruits while keeping recruit quality high. An additional $10.3 billion is estimated for associated basing and operating costs. CBO also comments that should an economic recovery materialize, there would be tough competition for needed Army personnel. When the economy

---

[1]/Includes those with post-secondary education and excludes nondiploma graduates with equivalency certificates.

becomes more vigorous the skills DOD needs are the ones that will be most in demand. In addition, the demographic trends reveal that fewer young males will be in the labor pool in the future.

--In light of these new requirements and the possible competition for skills DOD will likely face in the future, to what extent has DOD fully considered the personnel requirements of the new systems being fielded in planning and estimating bonus structure and costs? What do the studies show the differences in costs will be under the different possible situations?

Variable housing allowance

1. The variable housing allowance program--authorized in 1981--grew from $616 million in 1981 to $704 million in 1983. At the same time, the housing market in the United States has been volatile and housing costs have declined in some areas recently.

--In view of the overall state of the housing market are the services' costs in this area realistic?

--The current variable housing allowance program lacks adequate verification of costs, comparison with private sector costs, and controls in terms of the quality of housing being subsidized. What are DOD's plans for gathering statistically valid data, comparing data with comparable private sector costs, and controlling the "level" of housing being subsidized?

--To what extent has DOD considered the alternative cost of building, renting, and sudsidizing private market housing costs? Are the family housing construction plans targeted to provide housing in those areas where off-base housing is most expensive?

Funds for bonuses

1. The shortage of non commissioned officers (NCOs) that the services experienced in the 1970s is being relieved in the 1980s in part because of higher retention rates.

--Is the trend continuing into 1983? Has DOD fully considered this in its estimates for basic pay and related pay categories such as target enlistment and reenlistment bonuses?

--How soon will NCO vacancies be filled if present trends continue?

--To what extent are the services' technical needs being satisfied? Are there more or fewer non technical personnel at the higher NCO ranks than needed?

Funds for permanent change of station

1. DOD officials have expressed concern about the number of moves being made by service personnel and the effect this has on not only transportation costs but also military continuity and families. In 1983 DOD experienced over 8,000 fewer rotational trips but costs increased 12 percent from $138 million in 1982 to $157 million.

--How did this increase in costs occur at the same time DOD reduced rotational trips?

--To what extent have the services fully explored increasing tour lengths, thereby providing more stability and continuity and concomitantly reducing change of station travel?

CHAPTER 6

SUMMARY OF PROBLEMS IN PREPARING AND EXECUTING DOD'S BUDGET

During our review of how DOD prepared and executed its budget, we noted that several budgetary problems occurred repeatedly. Some of the problems are peculiar to specific types of accounts, while others are more general and apply to both operations and investment accounts. It became apparent early in our review that similar types of problems hamper most programs and the problems are either caused or exacerbated by the issues discussed in the previous chapters. This chapter illustrates the scope of the problems and discusses how these problems can be addressed.

BUDGETARY PROBLEMS PERVADE THE PROCESS

Problems that hamper execution of the budget are often programatic and recurring. Our review identified four problem areas--feedback and accountability, synchronization, inaccurate estimating, and fund utilization. The following table summarizes the number of times these problems occurred in the program reviewed.

Problems Affecting Budget Accuracy
Frequency Problems Were Noted

	Feedback and accountability	Synchro-nization	Inaccurate estimating	Fund utilization
O&M	6	3	9	5
Procurement	6	4	3	2
Military Personnel	4	2	7	1
Total	16	9	19	8

It is noteworthy that the four problem areas occur in all accoun categories. They are also often interrelated and interact with each other. The occurrences of these problems are more fully displayed in appendix IV.

Feedback and accountability

Budget execution goals and objectives established for the programs we reviewed are based on consumption requirements, such as how many barrels of fuel were used, or financial requirements, such as how much of the appropriation has been obligated. Few of the programs attempt to relate resources and achievements, such as how much increased capability was acquired by spending the money and burning the fuel.

This lack of sound linkages on progress or lack of progress manifests itself in two distinct ways. First, DOD does not generally establish budget criteria in terms of outputs, such as increased performance or capability. Second, DOD does not report what has been accomplished in terms of what programs have achieved compared to program objectives. Even using DOD's current procedures for identifying program objectives and reporting on these programs in subsequent years, as in Navy's aircraft depot maintenance program, DOD does not report when slippages or deviations occur. Consequently, the Congress and, in some cases, the services are not immediately aware that program costs increase resulting in less than the initially expected improvement.

Program synchronization

Program synchronization difficulties are common to all appropriations accounts: Personnel, O&M, and Investment. Generally, program budgets are initially prepared giving consideration to other programs which affect requirements. As time passes, events occur in sequences which were not always anticipated. In some cases, sufficient flexibility is incorporated into the planned program, so that these events do not adversely affect the plan. In other instances, changes in related programs affect programs to such a degree that program funding changes are needed. The Army's force modernization program is an example of this situation. The lack of synchronization between delivery and production schedules and the fielding of the equipment resulted in the reprograming of $118 million. Programs such as this where success depends on all the parts working in unison require constant monitoring to ensure that all the parts are synchronized and program changes are minimized.

Estimating problems

Projecting future program costs and requirements is a difficult task at best. This is evidenced by the fact that inaccurate estimating was the most frequently noted budgeting problem during our review. See chart on page 89. Thus, executing the budget as proposed becomes in some cases a futile effort resulting in millions of dollars not being spent for purposes approved by Congress. For example, the Army budgeted about $20.6 million that was not needed in fiscal year 1982 to support the M60A3 tank in Europe. The excess was budgeted because inaccurate cost estimates were used to compute requirements. This funding was subsequently spent for purposes not originally budgeted for. (See p. 41).

Effective and efficient funding utilization

The approved authorization and appropriations acts for each fiscal year identify the funds the Congress will provide for specific accounts, and in some cases programs within those accounts. Diversion of funds from intended purposes sometimes results in inefficient use of the funds. For example, as discussed in chapter 3, more than $1.6 billion has migrated to real property maintenance and repair programs. This influx of funds hampers program execution, because funds are often received too late in the fiscal year, resulting in some projects being funded that would not have been had the funds been received earlier in the year.

A BETTER BUDGET REVIEW STRATEGY IS NEEDED

The budgeting problems just discussed can have significant financial and programmatic impact and require DOD and congressional attention. A budget review strategy is needed that focuses directly on expected military achievement, one that provides incentives for the services to use such data as the basis for subsequent budgets. Such a strategy would include oversight of all phases of the budget process.

Updates and revisions

There are numerous opportunities to adjust defense budget requirements, right up to the time appropriations levels are decided. For example:

--Each service's budget evolves from multiple management review levels. Each iteration affords DOD an opportunity to ensure that cooperative programs, like readiness

training, maintenance, personnel, and supply remain synchronized and that barriers to efficient and effective execution of the budget are not allowed to develop.

--OSD has an opportunity to review each of the service's budgets to ensure that specific and joint military missions are funded at levels that comply with the administration's objectives and that multiservice programs are funded based on a common DOD definition--like computation of the backlog of work for real property maintenance and repair.

--Budget amendments and supplemental funding requests are also opportunities to update and revise funding requirements, as well as state a case for the increased funding level required.

--Finally, budget, authorizing, and appropriations committees' hearings not only offer DOD an opportunity to defend the budget but also serve as a vehicle to revise requirements that have changed.

A quick analysis of the previous table (see p. 89) reveals that opportunity is not enough; DOD needs more incentive to continue fine tuning program requirements while the Congress is debating the President's budget.

As pointed out in chapters 3 through 5, budget requirements are often merely estimates of funding the services have decided they will need to finance a level of activity that was sustained last year and the growth anticipated during the current year. Expected achievement is rarely, if ever, the basis for budget justification. As long as rates of consumption or funds obligation rates remain the barometer of successful execution the services have no real incentive to match requirements with expected program achievement or to face up to the issues we have presented. Another problem faces congressional committees, namely, how to provide DOD managers an incentive to update budget data. This is particularly troublesome in cases where budgets have been justified, yet experience shows the amounts originally requested are no longer needed. The philosophy suggests that the manager leave well enough alone, since these funds can be used or reprogramed to other areas.

Suggested budget review strategy

A successful review strategy must be founded on accurate and timely information that deals with the end result of defense spending, a measurable level of military capability. Such a strategy is discussed below.

With only minor changes, the present budget review process can head off many problems we noted and also give the services an incentive to keep funding requirements current. We believe three changes are needed:

--First, budget justifications should be structured as fully as possible to highlight measurable achievements, goals, and objectives for each program. The justifications should also contain assurances that proper coordination has been accomplished and that predictable barriers, such as inadequate support levels, have been anticipated and prevented.

--Second, when budgets are submitted, when they are amended, and when supplementals are requested, DOD should report on its program achievements to date. The reports should compare what was expected in terms of program goals and mission capability, and what has actually been achieved.

--Third, when requirements change while a budget is being debated, the services should advise the Congress, in writing, so that decisions can be made with full program knowledge. Most instances of inefficient or ineffective funds utilization, we noted, were caused by incomplete planning, poor estimating, or failure to coordinate adequately. Some incentive should be devised to prevent funds for a particular requirement from being budgeted more than once without detailed explanations.

To derive the greatest possible benefit from more goal-oriented data, congressional committees should focus on program achievements made with previous funding levels and the progress the services are making. Incentives for accurate and timely reporting should be applied wherever possible. One of the ways Congress can do this is to structure questions during hearings so that DOD must respond by relating its funding requests to progress being achieved.

It is important to note here that we recognize that coming up with workable measures that track program results and that can be related to funds, is frequently a thorny problem. We believe the choice of a "best" set of indicators which provide this information will evolve over time. However, changes which can be made now should be made. These changes should use the best information available. But this choice should not prevent a continuing improvement effort.

GAO and DOD Cooperate to Study the Budget Process

During 1982, we undertook a broad survey of financial management in the Federal Government, including the Department of Defense. We have idenified the general need to streamline and modernize systems and to strengthen the links between the many systems that support management.

At about the same time, the Comptroller General and the Deputy Secretary of Defense agreed to form a Joint Working Group to develop proposals for improving the Planning, Programming, and Budgeting System (PPBS) for DOD. The focus of this effort is on systemic improvements in resource allocation for DOD. Issues are being studied in the following processes and in the links between the processes:

--Planning
--Programming
--Budget formulation
--Budget presentation
--Budget execution
--Program execution
--Audit and evaluation

The Joint Working Group has full-time representatives from both GAO and DOD. Its effort is divided into three stages: (1) the identification of problems, (2) summary of alternatives for improvement, with pros and cons, and (3) the development of an implementation strategy for the alternatives chosen.

Stage one is nearing completion. Some of the major issues being considered include:

--Quality and level of program and budget information and feedback.

--Linkages between PPBS phases.

--Adequacy of the supporting accounting and information systems.

--The information structure with respect to appropriation categories and program categories and the crosswalk between these two sets of categories.

--Level of congressional information and actions.

--Weakness in planning and the ability to establish a military strategy and to state an afforable strategy in program guidance.

--Central control and documentation of PPBS.

This effort is being closely coordinated with our work on Government-wide improvements in financial management, including changes to the congressional budget process. What is learned in this work can have benefits for financial management systems, notjust in DOD, but throughout the Government.

CONCLUSIONS

During 1982, we undertook a broad survey of financial management in the Federal Government, including DOD. We have identified the general need to streamline and modernize systems and to strengthen the links between the many systems that support management.

No matter how often DOD financial systems are studied and refined budgeting will never reach a point of absolute precision, but it can be improved. Marginal increases in budget authorization, other than to cover inflation, should result in measurable marginal increases in program output and overall military capability. We believe the changes we are recommending will help provide the needed link between funding levels and military capability, and will be a step in the right direction toward building more accountability into the DOD budget. The joint GAO/DOD cooperative review of the Planning, Programing, and Budgeting System should complement any effort undertaken to refine the correlation of financial resources and military capability.

RECOMMENDATIONS TO THE CONGRESS

Many of the same problems that we reported in April 1982 still exist today, and are not likely to be resolved unless some significant changes are made in budget review strategy and methodology. Change is needed in the way DOD presents and reports its program funding requirements, and budget reviews at all levels should be oriented more toward prior year achievements and budget year expectations. We recommend that the Congress:

--Require DOD to develop a method of linking anticipated improvements in military capability to increased levels of funding.

--Pending implementation of a program to link increased funding and program performance expectations the Congress should query DOD on expected and measurable program outcomes during review of each budget request. Future budget requests should report on progress made toward attaining prior year expectations.

--After a program to link increased funding and program performance has been developed, the Congress should consider requiring the Office of Management and Budget to submit a special analysis of the DOD requirement using the linking indicators as a basis for the analysis.

Congress could then rely on the Office of Management and Budget for ensuring that requests for increased funding by DOD are based on measurable program outcome and that future budget requests report progress made towards attaining prior year expectation. Detailed information could be provided the Congress on an as needed basis.

RECOMMENDATIONS TO THE SECRETARY OF DEFENSE

To make DOD's programmatic requirements more visible, we recommend that DOD:

--Advise the Congress when requirements change more than five percent of what is being requested while a budget is being debated so that decisions can be made with full program knowledge.

--Wherever program goals and/or objectives were used to justify any part of the budget, program achievements should be reported to date when budgets are submitted, when they are amended, and when supplementals are requested.

AGENCY COMMENTS

Our draft report was submitted to DOD and the services for review. Comments were received at a combined session chaired by the Director of Operations, Deputy Assistant Secretary of Defense (Program/Budget). DOD and the services acknowledge that some of the instances we cited indicate imperfections in the system, but disagree with our conclusion that fundamental changes are required. They argue that no budgetary system involving the range and complexity of programs supported in the DOD budget could be expected to produce perfect results all of the time. They believe that, on balance, our report should

be viewed as indicating a great deal more is right with the system than is wrong. They also do not believe that requirements can be efficiently updated after the President's budget has been submitted; they believe that formulating indicators to link resources and expected program outcomes will be difficult and time consuming, and in their opinion, the executive summary of the report does not recognize past and present efforts to link resources and program performance.

We believe the problems we cite in the report are more than just imperfections. Because the same problems were found in most of the programs we reviewed, we consider them symptomatic of a need to address basic issues in the DOD budget system. Contrary to DOD's perception of our findings, we do not argue for perfection. As we point out in our conclusion on page no budget system will ever reach a condition of absolute precision, but all systems can be improved. And therein lies the basic message of our report--the DOD budget systems can and must be improved. More feedback and accountability must be built into the system making it more responsive to the needs of DOD planners and managers and the Congress. The system should also be more sensitive to detectable cost-estimating problems and other conditions that may cause programs to lose synchronization and prevent efficient execution.

The DOD also believes our proposal to inform the Congress when requirements change by five percent or more while the budget is being debated is not workable for two reasons: (1) the DOD budgeting systems are not responsive enough to identify and report changes to the Congress in a timely manner, and (2) even if they could the Congress could not deal efficiently with changing numbers after congressional milestones have passed; i.e., budget resolutions, authorization hearings, etc., and still meet authorizing and appropriating deadlines. DOD also pointed out that congressional committee staffers are almost in constant dialog with DOD project and budget staffs while the Congress is debating the budget. We agree that a great deal of information is exchanged based on inquiries made by some congressional committee staffs; however, the information is not routinely disseminated to all interested committees of the Congress. Therefore, we are very concerned that more accountability be built into the process.

We believe that the Congress is unaware of many changes involving millions of dollars, because at present the services have no incentive to report decreased requirements. We believe the budget process should be dynamic enough to consider and acknowledge significant changes that affect the budget request

under consideration. Certainly a multitude of changes occurring over a short period cannot be dealt with practically. However, changes of five percent or more should not occur so often that they cannot be relayed to the Congress and worked into the consideration of the budget request.

Because the product of defense is intangible, DOD doubts that valid indicators can be constructed to link a specific level of funding to a measurable level of performance. DOD also believe that more than adequate detail is presently made available to the Congress in the form of budget justifications and backup books; in their opinion, the Congress has neither the time, nor the need for additional detail data concerning DOD's program funding requirements.

Our analysis of some of DOD's budget justifications supports DOD's contention that a lot of detailed data are provided to the Congress and we agree that more like data may not be desirable. Our point is that a different kind of data--not more--would be beneficial when making budget decisions. For that reason we consider it imperative that the Congress be provided assurances that DOD has validated performance baselines--where we are and how it is measured--for each major program, and that desired and quantifiable performance outcomes drive future resource requirements. We recognize that formulation of the appropriate indicators is going to be difficult and will take some time. We also realize that there are several organizational considerations when deciding where to collect, compile, and report the data. However, we believe it is an essential task that should be undertaken as soon as possible. Perhaps the Office of Management and Budget could assume a more active role in developing and coordinating such a reporting format.

We agree with DOD that the executive summary should point out some of the past and ongoing efforts on the part of DOD to link resources and program output, and have amended the summary accordingly.

QUESTIONS FOR USE DURING CONGRESSIONAL REVIEWS

Following are some questions the Congress may want to ask to ensure today's procurement investment is supportable tommorow.

Matching and coordinating appropriations

1. Since fiscal year 1980 defense appropriations have grown at a sustained rate that has not been matched in the past 20

years. Most of the increase has been for research and development, and procurement of new weapon systems but significant increases have also been realized in the other appropriations as well. The large increase in investment programs triggers concern across the defense budget; for example (1) operational and maintenance funding will be needed at increasing levels to support the new systems, (2) staffing ceilings will have to be adjusted upward to ensure that adequate numbers of troops with the appropriate skills are available to employ the new systems, and (3) military construction must be phased to coincide with fielding of the new equipment.

--To what extent has DOD considered the future impact of the 70-percent growth in the budget since 1980?

--Have changes in support costs been related to the force structure changes made from 1980 through 1983?

--What has been done to establish better links between appropriations to ensure all requirements are synchronized?

2. If history is an accurate barometer, growth of the defense budget, at present rates, will not be sustained for long.

--Has a fallback strategy been considered?

--What will DOD do if growth in the budget does not keep pace with planned support strategy?

3. The new weapon systems being fielded during the 1980s are sophisticated, and are of a high technology and cannot be used effectively without adequate numbers of highly educated and/or skilled people to operate and maintain them. Today's economy has been an acknowledged contributor to DOD achieving its staffing goals, but what happens when the economy turns and more favorable employment opportunities surface in the private sector?

--Will the services be able to compete with a growing private sector to obtain and retain adequate numbers of highly educated and skilled people?

--If DOD finds it is losing a significant number of the people it wants to keep and is unable to recruit to meet its goals, what alternatives are being considered--benefits, salaries, bonuses, etc.? What

additional costs are anticipated to acquire and keep the force ready?

Measurable Achievement

1. During our review of the fiscal year 1982 defense budget several systemic problems were noted that probably can be eliminated with very little effort and cost.

   --What effort is being made to relate budget resources and achievement-oriented goals and objectives?

   --What effort is being made to improve the program indicators being tracked so that they better relate the use of funds to progress in achieving program goals?

   --What effort is being made to ensure budget estimates are as accurate as possible and are synchronized across accounts, thus minimizing the need to annually reprogram millions of dollars?

   --What effort is being made to ensure that funds can be and are absorbed in the most efficient manner?

OBJECTIVES, SCOPE, AND METHODOLOGY

In view of congressional concern about a $72 billion increase in defense spending between fiscal years 1980 and 1982, we established a task force to determine:

--The major problems which DOD wanted to correct with increased funds.

--The validity of requirements supporting the increased funding.

--The results, to date, in terms of effectiveness and efficiency and the possible long-term impact.

--The ability of reporting systems to provide management with adequate program visibility and accountability.

In our report, "Defense Budget Increases: How Well Are They Planned and Spent?", we observed that DOD directed most of the funding increase to improving readiness and sustainability and improving the quality of life for military personnel. However, we also found a number of areas where improved planning and spending of funding increases were needed and made recommendations to DOD for improvement. (Ch. 2 of this report discusses last year's report and responses.)

In 1983, the Congress again voiced concern over the size of the defense budget. DOD requested $258 billion for fiscal year 1983; however, congressional action subsequently reduced this amount to $240 billion. Cognizant of the Congress' continuing concern over the size of the defense budget and over whether the funds are effectively and efficiently spent, we have continued to examine increases in defense spending.

This report addresses three dimensions of defense budgeting. First, it takes a look forward to budget planning. Next, it looks backward at program achievements. Finally, it cuts across the planning, budgeting, and execution process to isolate issues and problems inherent in the system. Our objective was to develop a method that the Congress could use to gather information and resolve troublesome issues within this tridimensional setting.

We looked at:

--How well the budget plan is put together.

--How well the money has been spent.

--How the system contributes to planning and execution problems.

This study focuses on three appropriations categories. O&M is discussed in chapter 3, Procurement in chapter 4, and Military Personnel in chapter 5. We present our analysis in terms of funding categories (inputs) because this is the structure that DOD uses to describe budget goals and to prepare data for the Congress. We try to link these inputs to what they achieve (outputs). We stress the importance of linking budget resources to accomplishments.

Chapter 1 presents an overview of recent budgeting trends and goals. Chapters 3 to 5, which contain budget data for fiscal years 1980-83, focus on programs receiving large funding increases in the early 1980s. For selected programs, we describe budget formulation problems and compare the differences between planning estimates and actual spending. We discuss why program spending either exceeded or was less than estimates in budget justifications. Then we describe how budget problems that we identified affect planned achievements. Also, where we can, we provide questions that the Congress may want to ask when reviewing budget plans and evaluating achievements. In addition, chapter 4 discusses DOD's progress in stablizing the acquisition process.

Chapter 6 lists and discusses the issues and problems that occurred over and over again in the programs reviewed. We show how the planning and budgeting system can create and exacerbate budget problems, and we recommend ways to resolve some of them. In addition, chapter 6 contains an approach for reviewing defense budget plans and for evaluating how budget resources have contributed to program results.

We conducted this effort in accordance with generally accepted government audit standards. Work was performed at the following activities and locations:

OSD:

--Office of the Under Secretary of Defense for Research and Engineering.
--Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics).
--Office of the Assistant Secretary of Defense (Comptroller).
--U.S. Army Headquarters, Washington, D.C.
--U.S. Army Training and Doctrine Command, Ft. Monroe, Virginia.
--Fort Lee, Petersburg, Virginia.
--U.S. Army Development and Readiness Command, Alexandria, Virginia.
--U.S. Army Missile Command, Huntsville, Alabama.

--U.S. Army Depot System Command, Chambersburg, Pennsylvania.
--Army Headquarters, Europe.
--5th Army Corps, Europe.
--1st Armored Division.
--U.S. Army Forces Command, Fort McPherson, Georgia.
--Fort Hood, Killeen, Texas
--Fort Stewart, Savannah, Georgia.
--Fort McPherson, Atlanta, Georgia.

Navy:

--Navy Headquarters, Washington, D.C.
--Naval Air Systems Command, Washington, D.C.
--Naval Aviation Supply Office, Philadelphia, Pennsylvania.
--Naval Facilities Engineering Command, Washington, D.C.
--Naval Aviation Logistics Center, Patuxent River, Maryland.
--Naval Amphibious Base, Little Creek, Virginia Beach, Virginia.
--Naval Air Station, Oceana, Virginia.
--Naval Air Station, Jacksonville, Florida.
--Commander, Naval Air Pacific, San Diego, California.
--Commander, Naval Air Atlantic, Norfolk, Virginia.
--Naval Air Station, Miramar, California.

Air Force:

--Air Force Headquarters, Washington, D.C.
--Air Force Aeronautical Systems Division, Wright-Patterson Air Force Base, Ohio.
--Air Force Logistics Command, Wright-Patterson Air Force Base, Ohio.
--San Antonio Air Logistics Center, Kelly Air Force Base, Texas.
--Tactical Air Command, Langley Air Force Base, Virginia.
--Langley Air Force Base, Virginia.
--U.S. Air Force, Europe.
--Bitburg Air Force Base, Federal Republic of Germany.
--U.S. Air Force Lakenheath, United Kingdom.
--U.S. Air Force Mildenhall, United Kingdom.

DEPARTMENT OF NAVY

MAJOR SYSTEMS EITHER PROPOSED OR UNDER CONTRACT

BY FISCAL YEAR FUNDING

Category	Fiscal year 1981	1982	1983	Total 1981-83	Carter 1981-83
Aircraft:					
A-6E	12	12	8	32	20
AV-8B	-	12	21	33	-
F-14A	30	30	24	84	66
F/A-18	60	63	84	207	195
C-9B	2	-	-	2	2
C-2	-	-	8	8	-
CH-53E	14	14	11	39	36
E-2C	6	6	6	18	18
EA-6B	6	6	6	18	10
EC-130Q	1	2	-	3	5
P-3C	12	12	6	30	24
SH-60B LAMPS	-	18	27	45	56
SH-2F	-	18	18	36	-
T-34C	60	60	30	150	45
TH-57 Sea Ranger	32	30	21	83	7
Total	235	283	270	788	484
Missiles:					
Trident	72	72	62	206	216
HARM	80	118	160	358	329
LASER Maverick	-	-	12	12	90
Phoenix	210	72	108	390	502
Sidewinder	220	700	500	1,420	1,015
Sparrow	625	529	621	1,775	2,860
Harpoon	240	240	221	701	720
Standard missile	845	1,095	1,150	3,090	3,190
Tomahawk	50	61	51	162	161
Stinger	271	488	1,560	2,319	1,278
TOW	-	2,666	1,000	3,666	-
HAWK	-	388	211	599	-
Total	2,613	6,429	5,656	14,698	10,361

Category	Fiscal year 1981	1982	1983	Total 1981-83	Carter 1981-83
Weapons:					
Phalanx (close-in weapons system)	52	49	37	138	154
M-46 torpedo	253	228	440	921	821
M-48 torpedo	100	144	120	364	100
M-60 captor mine	280	400	300	980	1,120
Light armored vehicle	-	60	134	194	180
Landing vehicle tracked	-	30	146	176	148
Total	685	911	1,177	2,773	2,523
Shipbuilding and conversion:					
CG-47 AEGIS cruiser	2	3	3	8	6
CV life extension	1	-	1	2	2
Battleship reactivation	-	1	1	2	-
CVN nuclear aircraft carrier	-	-	2	2	-
FFG guided missile grigate	6	3	2	11	7
SSN-688 attack submarine	2	2	2	6	4
Trident submarine	1	-	1	2	3
LSD-41 landing ship dock	1	1	1	3	1
ARS salvage	1	2	1	4	4
MCM mine countermeasures ship	-	1	1	2	1
T/AO oiler	-	1	1	2	1

APPENDIX II

Category	Fiscal year 1981	1982	1983	Total 1981-83	Carter 1981-83
TAGOS	5	4	-	9	12
TAKR fast Logistics Ships	-	4	-	4	5
TAK resupply	1	-	-	1	1
TADX, maritime prepo ship RO/RO	-	-	-	-	3
TAH (conv.)	-	-	1	1	1
T/AFS (conv.)	-	2	-	2	1
TAKX	-	-	-	-	2
Total	20	24	18	61	54

DEPARTMENT OF AIR FORCE

MAJOR SYSTEMS EITHER PROPOSED OR UNDER CONTRACT

BY FISCAL YEAR FUNDING

Category	Fiscal year 1981	1982	1983	Total 1981-83	Carter 1981-83
Aircraft:					
A-10	60	20	20	100	60
B-1B	-	1	7	8	-
F-15	42	36	39	117	90
F-16	180	120	120	420	372
A-7K	6	-	-	6	6
KC-10A	6	4	8	18	6
C-5B	-	-	1	1	-
TR-1	4	6	5	15	12
E-3A	2	2	2	6	6
UH-60	5	6	-	11	-
F-5F	-	3	3	6	-
Total	305	198	205	708	552
Missiles:					
ALCM	480	440	330	1,250	1,360
MX	-	-	-	-	9
GLCM	11	54	84	149	185
HARM	-	118	129	247	286
IR Maverick	-	200	900	1,100	4,150
Sidewinder	1,280	1,800	1,920	5,000	2,660
Sparrow	1,050	966	1,165	3,181	3,400
Total	2,821	3,578	4,528	10,927	12,050

ISSUES AND PROBLEMS IN PREPARING AND EXECUTING DOD'S BUDGET

Program	Feedback and accountability	Synchronization	Inaccurate estimating	Fund utilization
O&M:				
Flying hours:				
Computation			p.33	
Currency of data			p.34	
Relation of proficiency to funding	p.35			
Spares		p.36		
Requirements changed			p.37	p.37
Deviation from budget		p.36		p.36
Force modernization:				
Computation			p.39	
Support equipment		p.40		
Requirements changed			p.40	
Funds reprogramed				p.42
Maintenance and Repair of real property:				
Reportable objectives	p.24			
Computation			p.25	
Requirements changed			p.26	
Relation of capability to funding	p.24			
BMAR objectives (note a)	p.30			
BMAR computation			p.24	
Depot maintenance:				
Relation of goals to capability	p.43			
Inconsistency of reporting	p.45			

a/Backlog of maintenance and repair

Program	Feedback and accountability	Synchronization	Inaccurate estimating	Fund utilization
Productivity estimates			p.45	
Carryover				p.46
Personnel ceiling				p.49
Procurement:				
M-X	p.62	p.62		
ALCM	p.61	p.61		
DIVAD				p.64
CG-47	p.63	p.63		
Spares acquisition:				
Currency of data	p.65		p.65	
Acquisition process				p.66
Ammunition:				
Requirements changed	p.65	p.66		
Currency of data	p.66		p.66	
Computation			p.65	
Personnel:				
Basic pay:				
Requirements changed	p.78		p.79	
Currency of data	p.78		p.78	
Enlistment and reenlistment bonuses:				
Retention rates		p.77		
Life-cycle costs			p.81	
Variable housing allowance:				
Computation	p.80		p.80	p.80
Requirements changed			p.79	
Permanent change of station:				
Retention rates	p.84	p.84		
Requirements changed			p.85	
Computation			p.84	

APPENDIX V

SELECTED ACQUISTION REPORT SYSTEMS ANALYZED

SAR systems Dec. 1981	SAR systems Dec. 1982	Systems common to both Dec. 1981 and Dec. 1982
	Army	
Patriot	Patriot	Patriot
Pershing II	Pershing II	Pershing II
Hellfire	Hellfire	Hellfire
CH-47 Modernization	CH-47 Modernization	CH-47 Modernization
UH-60A Blackhawk	UH-60A Blackhawk	UH-60A Blackhawk
AH-64	AH-64	AH-64
FVS (MICV)	FVS (MICV)	FVS (MICV)
M-1 Tank	M-1 Tank	M-1 Tank
Copperhead	Copperhead	Copperhead
Sgt York/DIVAD	Sgt York/DIVAD	Sgt York/DIVAD
MLRS	MLRS	MLRS
SOTAS (division sets)	JTIDS (Army)	
Roland (Fire Units)	AHIP	
	TTC-39	
	Stinger	
	Navy	
F-14A	F-14A	F-14A
F-18	F-18	F-18
AV-8B	AV-8B	AV-8B
LAMPS MK III	LAMPS MK III	LAMPS MK III
Captor	Captor	Captor
HARM	HARM	HARM
Harpoon	Harpoon	Harpoon
Sidewinder	Sidewinder	Sidewinder
Sparrow	Sparrow	Sparrow
Tomahawk	Tomahawk	Tomahawk
Trident I MISSILE	Trident I MISSILE	Trident I MISSILE
TACTAS	TACTAS	TACTAS
SSN-688	SSN-688	SS-688
CG-47-AEGIS	CG-47-AEGIS	CG-47-AEGIS
FFG-7	FFG-7	FFG-7
CVN-71	CVN-71	CVN-71
CVN-72/73	CVN-72/73	CVN-72/73
Phoenix (A&C MODELS)	Phoenix (C MODEL)	
Trident I SUB	Trident	
PHM	Trident II MISSILE	
5 Inch Guided Projectile	Trident II SUB	
	CH-53	
	Battleship React	
	DDG-51	

SELECTED ACQUISITION REPORT SYSTEMS ANALYZED

SAR systems Dec. 1981 12/81	SAR systems Dec. 1982 12/82	Systems common to both Dec. 1981 and Dec. 1982
	Air Force	
F-15	F-15	F-15
F-16	F-16	F-16
E-3A (AWACS)	E-3A (AWACS)	E-3A (AWACS)
EF-111A	EF-111A	EF-111A
B-1B	B-1B	B-1B
HARM	HARM	HARM
Maverick (IIR)	Maverick (IIR)	Maverick (IIR)
Sidewinder	Sidewinder	Sidewinder
Sparrow	Sparrow	Sparrow
DSCS III (Spare Seg)	DSCS III (Space Seg)	DSCS III (Space Seg)
NAVSTAR GPS	NAVSTAR GPS	NAVSTAR GPS
ALCM	ALCM	ALCM
GLCM	GLCM	GLCM
E-4 (AABNCP)	JTIDS (Air Force)	
A-10	B-52 MOD	
	AMRAAM	
	Space Transp. IUS	
	LANTIRN	

SYSTEMS REPORTING PROGRAM, UNIT COST, QUANTITY, AND DEVELOPMENT SCHEDULE CHANGES FROM DECEMBER 1981 TO DECEMBER 1982

Systems	Percent change			
	Program cost (note a)	Program quantities (note b)	Unit cost (note c)	Scheduled milestones (note d)
Army:				
Patriot	9.1	-	8.88	1
Pershing II	(2.7)	(1)	(1.22)	-
Hellfire	9.0	18	(16.67)	-
CH-47 Mod	4.0	-	4.03	-
UH-60A	(5.7)	-	(5.71)	-
AH-64	(0.1)	15	(13.32)	-
FVS	(12.0)	-	(11.86)	-
M-1 Tank	4.1	-	3.97	-
DAVID/Sgt. York	(0.2)	-	(0.30)	-
MLRS	1.5	-	1.49	-
Copperhead	(50.6)	(77)	133.33	10
Navy:				
F-14A	(5.7)	-	(5.73)	-
F-18	0.3	-	0.24	4
LAMPS	22.3	(1)	17.43	-
CAPTOR	(7.1)	(10)	2.63	-
HARM	34.9	13	19.44	1
Sparrow	8.8	(4)	10.53	14
Harpoon	(3.6)	4	(6.80)	-
Sidewinder	37.4	21	11.11	-
Tomahawk	(8.3)	-	(8.41)	15
Trident missile	(5.4)	(11)	6.33	-
CG-47	1.6	-	1.63	-
SSN-688	21.1	11	9.34	-
CVN-71	(2.6)	-	(2.63)	-
FFG-7	(31.1)	(17)	(17.26)	-
CVN 72/73	(2.0)	-	(2.04)	(1)
AV-8B	(4.4)	(2)	(2.10)	(1)

Systems	Percent change			
	Program cost (note a)	Program quantities (note b)	Unit cost (note c)	Scheduled milestones (note d)
Air Force:				
F-15	2.3	4	(1.64)	-
F-16	6.3	9	(2.25)	-
E-3A	9.3	-	9.30	-
EF-111A	5.9	-	5.88	1
Maverick (IIR)	22.0	-	25.00	17
DSCS	4.2	-	4.18	1
ALCM	(46.4)	(65)	51.35	-
GLCM	8.7	-	8.72	-
NAVSTAR	(1.4)	-	(1.41)	3
B-1B	(4.1)	-	(4.08)	-
Sparrow	(48.0)	(59)	25.00	14
Sidewinder	(7.3)	(5)	(1.40)	-
HARM	(17.4)	(37)	28.57	-

a/Cost change ranged from -$3,743.5 to $5,109.5 million.
b/Quantity changes ranged from -34,756 units to 6,576 units.
c/Unit cost change ranged from -$166.8 million to $40.5 million.
d/Change was measured from scheduled initial operating capability milestone. Scheduled changes ranged from -1 month to 15 months.

QUESTIONS FOR USE DURING CONGRESSIONAL REVIEWS

Congressional authorizing and appropriating subcommittees and committees may wish to ask the services the following questions during their budget year and execution year reviews.

Real property maintenance and repair programs

1. The services have justified increased funding for real property maintenance to not only enhance readiness but also improve the working and living conditions of service personnel.

   --What guidance and criteria have the services developed to ensure that funds are spent prudently on readiness and quality of life projects?

   --What measurable improvements have resulted from increased real property maintenance funding?

2. Each year millions of dollars migrate from mission-related programs to real property maintenance. Because much of this funding migrates in the last months of the fiscal year, projects of questionable need are sometimes funded in an attempt to spend the money before yearend.

   --What have the services done to ensure that only high priority projects are funded with year end migration?

3. The number of projects that have not been funded in prior years is considered a symptom of inadequate funding. However, our review and those of the services' internal review activities have found that reported backlog levels are inaccurate and thus questionable as an indicator of need for increased funding.

   --What has been done to validate the backlog level for this year's budget?

   --How much confidence can be placed in the reported backlog?

4. In part, the services have justified increased funding for real property maintenance because of a growing backlog of projects.

--Have the services validated their backlogs to ensure that only essential projects are included?

--What progress have the services made in reducing their backlogs since fiscal year 1980? If reductions have occurred, did they result from increased funding or revalidation of the backlog?

Flying hour programs

1. Budget requirements for flying hours should be based on accurate estimates of aircraft available to execute the program.

--Are current flying hour budget requirements computed using total authorization or historic trends of available operational aircraft?

--To what extent does this factor inflate the flying hour budget request?

2. Programs such as flying hours that are dependent upon other programs, such as logistical support, must be closely coordinated to ensure all essential support is on hand in the needed quantities at the time needed.

--How do the services ensure that flying hour budgets are thoroughly coordinated with support functions, such as personnel, spare parts, and maintenance?

--What procedures have been established to provide an oversight capability?

3. Program requirements are subject to changes due to operational needs and changing priorities. Although the military services track these program changes and update program costs, this information is not routinely provided to the Congress.

--Under what circumstances do the services notify the Congress of program changes prior to program appropriation?

Army force modernization program

1. Operation and sustainment costs are now assumed to be equal for each year during the useful life of the equipment. However, USAREUR officials believe that such costs are lower in the initial year of fielding and escalate with the age of the equipment.

   --How does the Army plan to determine if costs are lower during the initial years and, if so, to make corresponding cost adjustments?

2. The Army has incorporated the standard midyear review concept into force modernization management. The review identified fund excesses and shortages for the major commands but did not determine specific reasons for them.

   --Has the Army identified specific reasons why funds for force modernization cannot be spent as planned? If so, why?

   --Do repeated program excesses indicate that stated requirements for fielding new systems exceed the actual need?

Depot maintenance program

1. Depot maintenance backlogs accrue when valid requirements cannot be satisfied because of insufficient resources. At the Corpus Christi Army Depot we found just the opposite; i.e., funded but incompleted maintenance work was being carried forward to the next fiscal year at an increasing rate.

   --Are other service depot activities experiencing a similar problem, and if so, what are the projected carryovers for the end of fiscal year 1983?

   --Is this problem casued by each of the service's efforts to achieve a zero backlog? What actions have the services taken to coordinate depot maintenance requirements with available resources, such as spare parts and staffing levels, to ensure that the program can be executed as budget?

--In view of the ending and projected carryover at the Corpus Christi Depot for fiscal years 1982 and 1983, why shouldn't the Army's fiscal year 1984 budget be reduced to bring the carryover down to a manageable level?

2. To increase readiness and sustainability the services have established a goal of achieving a zero mainteance backlog for their depot programs by the end of fiscal year 1983.

--Have indicators been established to link depot level maintenance to overall mission capability? If so, do mission capability and other readiness-related indicators reflect a positive trend as a result of increased funding?

--How do rising or falling funding levels affect the indicators?

Supporting the investment in defense

1. Between fiscal years 1980 and 1983, the procurement funding for readiness and sustainability-related items increased by approximately $12 billion.

--What indications does DOD have to show whether readiness and sustainability within the forces are improving?

--What level of procurement funding will be necessary to achieve and maintain the desired levels of readiness and sustainability?

2. Since fiscal year 1980, each service has increased the number of major items budgeted for procurement.

--What is the funding impact on O&M and Procurement accounts?

--What level of funding will be required to support, operate and maintain today's investments in the future?

3. We analyzed a selected group of major acquisition programs and found the Congress was reviewing an outdated budget request. After budget data were updated, the Congress decided to reduce the proposed fiscal year 1983 appropriatons.

    --What actions does DOD plan to ensure that the budget being reviewed represents the program's most current needs?

Stabilizing the acquisition process

1. DOD considers stabilizing the acquisition process as a prerequisite to achieve the full benefit of its Acquisition Improvement Program.

    --In spite of the increased funding for weapons programs since fiscal year 1980, GAO observed indicators of instability in almost half of the systems reported in both the December 1981 and December 1982 SARs. Why are so many programs still showing signs of instability?

Funds for basic pay

1. DOD expects to increase active duty end strength by 130,000 between 1983 and 1987 to operate and maintain new, high technology weapons systems. There are different estimates as to what increasing end-strengths will cost. The Congressional Budget Office (CBO) estimates in their study on Army ground force modernization for the 1980s (see note 1 on p. 86) that adding 100,000 more troops to the Army would cost $6.7 billion over the next 5 years assuming that the increases are phased in at steady annual rates. This covers pay and allowance and additional recruiting incentives needed to get more recruits while keeping recruit quality high. An additional $10.3 billion is estimated for associated basing and operating costs. CBO also comments that should an economic recovery materialize there would be tough competititon for needed Army personnel. When the economy becomes more vigorous the skills DOD needs are the ones that will be most in demand. In addition, the demographic trends reveal that fewer young males will be in the labor pool in the future.

--In light of these new requirements and the possible competition for skills DOD will likely face in the future, to what extent has DOD fully considered the personnel requirements of the new systems being fielded in planning and estimating bonus structure and costs? What do these studies show the differences in costs will be under the different possible situations?

Variable housing allowance

1. The variable housing allowance program--authorized in 1981--grew from $616 million in 1981 to $704 million in 1983. At the same time, the housing market in the United States has been volatile and housing costs have declined in some areas recently.

--In view of the overall state of the housing market are the services' costs in this area realistic?

--The current variable housing allowance program lacks adequate verification of costs, comparison with private sector costs, and controls in terms of the quality of housing being subsidized. What are DOD's plans for gathering statistically valid data, comparing data with comparable private sector costs, and controlling the "level" of housing being subsidized?

--To what extent has DOD considered the alternative cost of building, renting, and subsidizing private market housing costs? Are the family housing construction plans targeted to provide housing in those areas where off-base housing is most expensive?

Funds for bonuses

1. The shortage of NCOs that the services experienced in the 1970s is being relieved in the 1980s in part because of higher retention rates.

--Is the trend continuing into 1983? Has DOD fully considered this in its estimates for basic pay and related pay categories such as targeted enlistment

and reenlistment bonuses.

--How soon will NCO vacancies be filled if present trends continue?

--To what extent are the services' technical needs being satisfied? Is there have more or fewer non-technical personnel at the higher NCO ranks than needed?

Funds for permanent change of station

1. DOD officials have expressed concern about the number of moves being made by service personnel and the effect this has on not only transportation costs but also military continuity and families. In 1983 DOD experienced over 8,000 fewer rotational trips but costs increased 12 percent from $138 million in 1982 to $157 million.

--How did this increase in costs occur at the same time DOD reduced rotational trips?

--To what extent have the services fully explored increasing tour lengths, thereby providing more stability, continuity, and concomitantly reducing change of station travel?

Matching and coordinating appropriations

1. Since fiscal year 1980, defense appropriations have grown at a sustained rate that has not been matched in the past 20 years. Most of the increases have been for research and development and procurement of new weapon systems. But there have been significant increases in the other appropriations as well. The large increases in investment programs triggers concern across the defense budget, for example (1) O&M funds will be needed at increasingly higher levels to support the new systems, (2) staffing ceilings will have to be adjusted upward to ensure that adequate numbers of troops with the appropriate skills are available to employ the new systems, and (3) military construction must be phased to coincide with fielding of the new equipment.

--To what extent has DOD considered the future impact of the 70 percent growth in the budget since 1980?

--Have changes in support costs been related to the force structure changes made from 1980 through 1983?

--What has been done to establish better links between appropriations to ensure all requirements are synchronized?

2. If history is an accurate barometer, growth of the defense budget, at present rates, will not be sustained for long.

--Has a fallback strategy been considered?

--What will DOD do if growth in the budget does not keep pace with planned support strategy?

3. The new weapon systems being fielded during the 1980s are sophisticated, and are of a high technology and cannot be used effectively without adequate numbers of highly educated and/or skilled people to operate and maintain them. Today's economy has been an acknowledged contributor to DOD achieving its staffing goals, but what happens when the economy turns and more favorable employment opportunities surface in the private sector?

--Will the Services be able to compete with a growing private sector to obtain and retain an adequate number of highly educated and skilled people?

--If DOD finds it is losing a significant number of the people it wants to keep and is unable to recruit to meet its goals, what alternatives are being considered--benefits, salaries, bonuses, etc.? What additional costs are anticipated to acquire and keep the force ready?

Measurable achievement

1. During our review of the fiscal year 1982 defense budget several systemic problems were noted that probably can be eliminated with very little effort and cost.

--What effort is being made to relate budget resources and achievement-oriented goals and objectives?

--What effort is being made to improve the program indicators being tracked so that they better relate the use of funds to progress in achieving program goals?

--What effort is being made to ensure budget estimates are as accurate as possible and are synchronized across accounts thus minimizing the need to annually reprogram millions of dollars?

--What effort is being made to ensure that funds can be and are absorbed in the most efficient manner?

*U.S. GOVERNMENT PRINTING OFFICE : 1983 0-381-843/49

24992

AN EQUAL OPPORTUNITY EMPLOYER

UNITED STATES
GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE,$300

POSTAGE AND FEES PAID
U. S. GENERAL ACCOUNTING OFFICE

U.S.MAIL

SPECIAL FOURTH CLASS RATE
BOOK