Statement of
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before the
Defense and International Affairs Task Force
Committee on the Budget
U.S. House of Representatives

September 14, 1987

NOTICE

This statement is not available for public release until it is delivered at 9:30 a.m. (EDT), Monday, September 14, 1987.

I appreciate the chance to appear before you today, and in the next few minutes I will summarize for you the trends in defense spending over the past four decades, with an emphasis on the 1980s. I will also use these dollar trends to identify some key issues that you might keep in mind as you assess defense budgets. Issues include the adequacy of defense operating funds, emphasis on strategic nuclear funding, and shifts in quantity versus quality of military weapons.

While these dollar trends can identify issues, they cannot resolve them. Judgments about desirable levels of defense spending depend on assessments of threats to U.S. security weighed against the cost of deterring or defeating those threats. Budget trends describe the past outcomes of these difficult judgments but cannot prescribe how the decisions should be made in the future.

Nor will I be able to deal comprehensively with the details of the defense budget. The national defense function has a very large budget, totaling $291 billion of budget authority in 1987. This amount is nearly three times the gross sales of the largest U.S. private corporation. If its budget were the gross national product of a country, defense would be the eighth largest country in the free world. The national defense budget pays the salaries of 3.3 million full-time employees, military and civilian, plus another 1.1 million part-time military reserves; they work at some 5,000 locations worldwide. Each day the defense budget finances an average of almost 40,000 contract actions for everything from nuts and bolts to fighter engines. Clearly, I can touch on only a small part of the budget of such a massive organization.

One useful measure of total defense spending is real or inflation-adjusted dollars of budget authority, which are shown in Figure 1. Since 1950, this measure has heavily reflected wars. Real budget authority peaked at the height of the Korean War in 1952 and rose again during the Vietnam War. During peacetime periods between 1950 and 1980, real defense budget authority was much more constant, ranging from $180 billion to $230 billion and averaging about $200 billion.

During this Administration, however, the United States has diverged from that peacetime pattern. Real budget authority rose by 54 percent between 1980 and 1985, then declined by about 6 percent during the last two years. This left 1987 budget authority at $291 billion. Compared with the peacetime average during 1950 to 1980, this level is higher than the average by more than 40 percent. Of course, this divergence from past trends may be appropriate in light of current threats to U.S. security. As I have already noted, the desired level of defense spending depends on judgments that go well beyond these numbers.

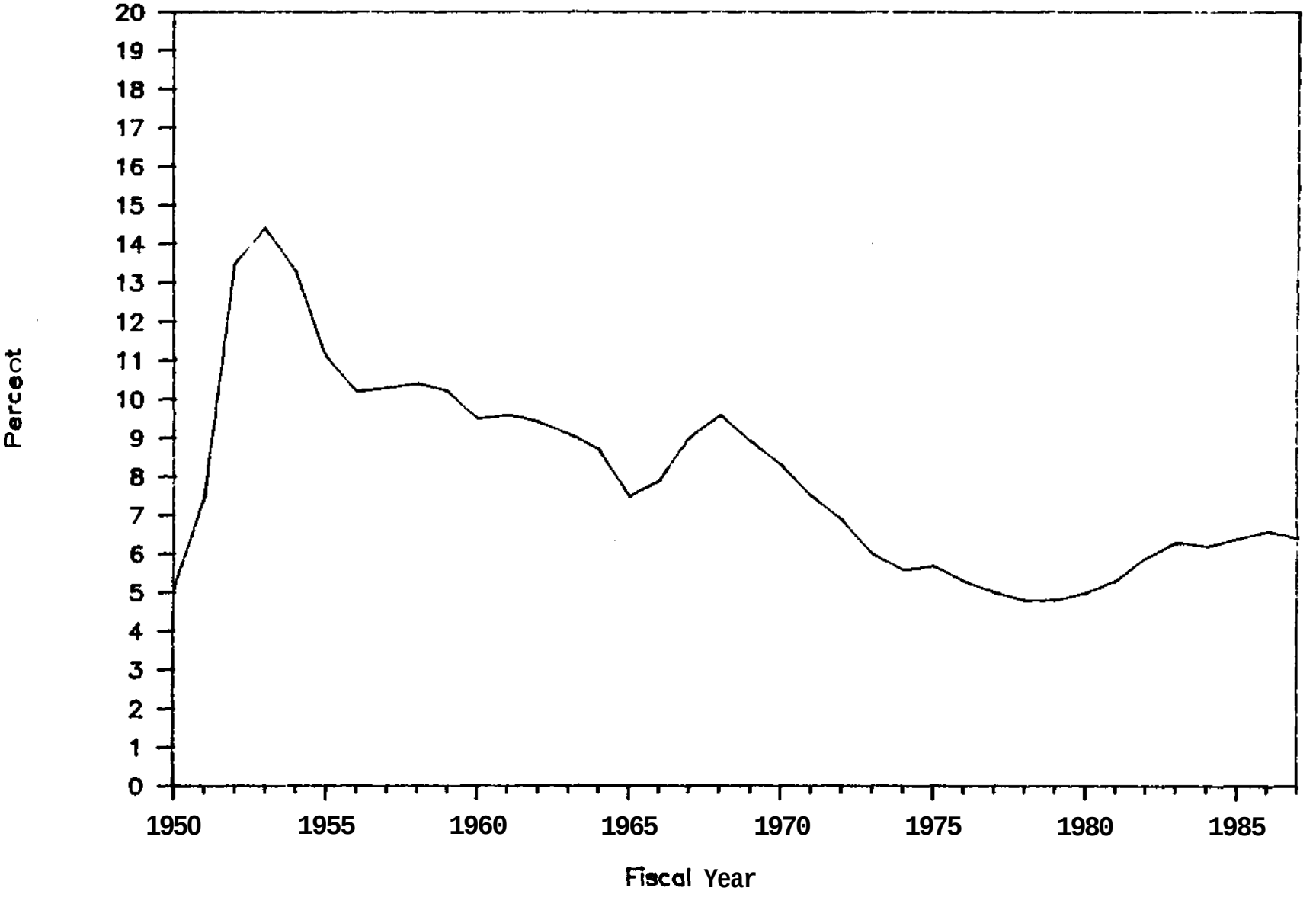
Another useful measure of total defense spending expresses defense outlays as a percentage of gross national product (GNP). This measure indicates the portion of all our goods and services that the United States devotes to defense.

Defense spending shows a different pattern as a percentage of GNP than it does measured in real dollars of budget authority (see Figure 2).

FIGURE 1. NATIONAL DEFENSE BUDGET AUTHORITY
(In constant 1987 dollars)

SOURCE: Congressional Budget Office.

FIGURE 2. NATIONAL DEFENSE OUTLAYS AS A PERCENT OF GNP



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

Again, wartime effects are evident, with a peak during the Korean War and a lesser peak during Vietnam. But the portion of GNP devoted to defense during peacetime periods has declined markedly since 1950. During the peacetime periods of the late 1950s and early 1960s, the United States devoted between 9 percent and 11 percent of its GNP to defense. That percentage fell to a low of 4.8 percent in 1979 and has risen to 6.4 percent in 1987. But today's level is still well below earlier peacetime highs.

As with dollar trends, one cannot conclude from these numbers what level is appropriate. These percentages do suggest, however, that the U.S. economy could probably accommodate higher defense spending if it were judged necessary and worth the cost; at least the economy has absorbed higher spending in the past.

Percentages of GNP also permit comparison between defense spending and other types of federal government spending. While defense spending as a percent of GNP generally fell during the peacetime periods between 1950 and 1980, nondefense spending generally rose (see Figure A-1 in the Appendix). Comparing the years 1980 and 1987, this pattern has reversed, with defense spending rising as a percent of GNP and nondefense spending generally falling. These shifts have not fully offset each other. Total federal spending as a percent of GNP has risen from about 16 percent in .1950 to about 22 percent in 1980 and 23 percent in 1987. This increase took place in part because of rising interest on the federal debt, which cannot be accurately attributed either to defense or nondefense costs.

The percent of GNP that the United States devotes to defense exceeds that of most of our allies. In 1985--the latest year for which foreign data are available--the United States devoted 6.7 percent of its gross domestic product (GDP) to defense. Non-U.S. NATO allies averaged 3.5 percent, while Japan spent about 1 percent (see Table A-1). Some U.S. allies make important contributions to the common defense that are not included in these percentages--such as the use of land for peacetime training or the "hidden tax" associated with the imposition of conscription--though these factors are probably not large enough to offset fully the differences in spending.

As for spending by this country's potential adversaries, unclassified estimates of Soviet defense spending range between 12 percent and 17 percent of that country's GDP. Soviet GDP is significantly lower than U.S. GDP, however, and Soviet allies spend less than U.S. allies. Thus, the dollar value of total defense spending by the Warsaw Pact allies is thought to be less than that by the NATO allies.

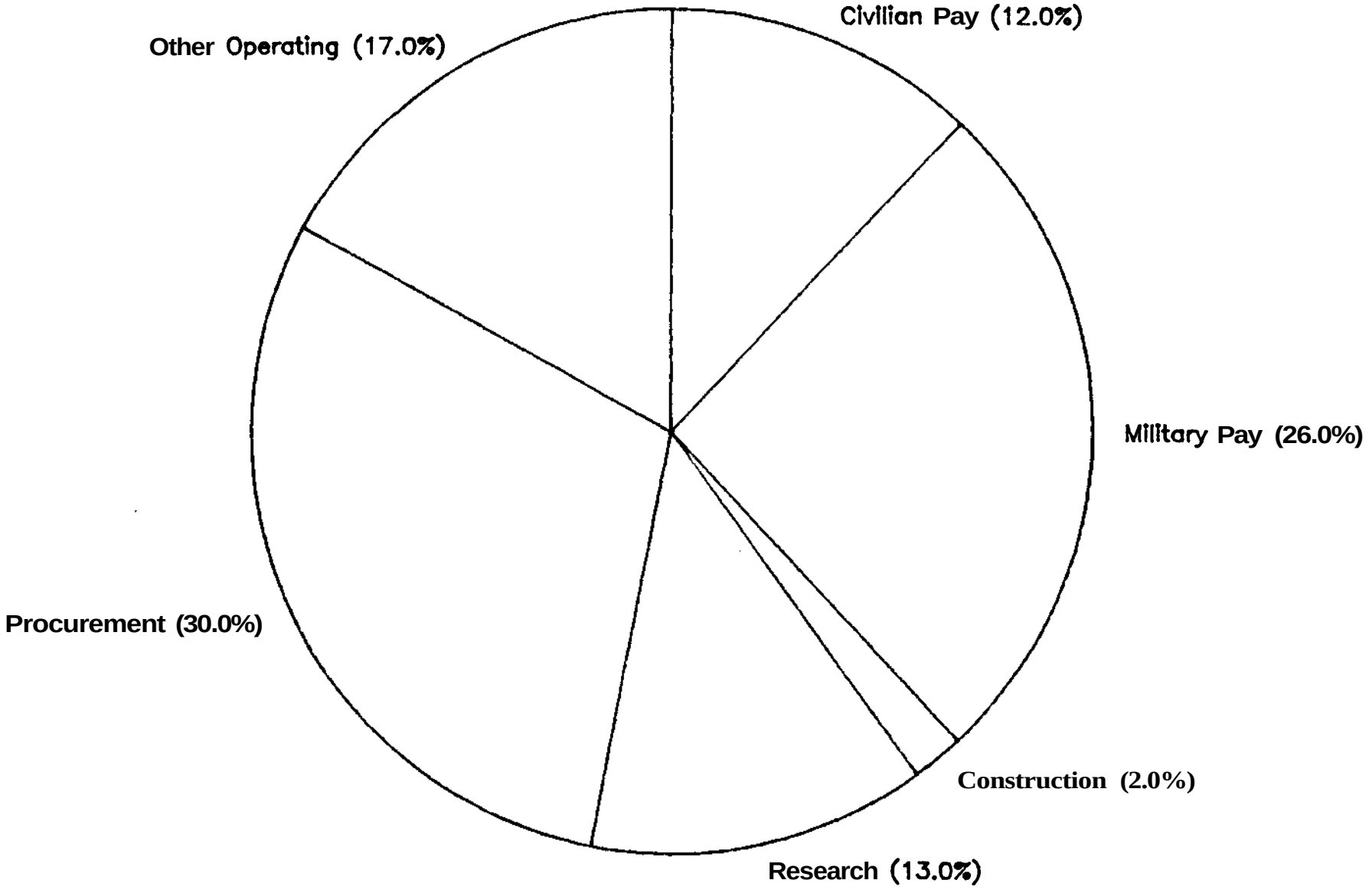
PATTERNS WITHIN THE DEFENSE BUDGET

Let me turn now to patterns within the 1987 budget for the Department of Defense (DoD). (Because of the availability of data, in the remainder of my testimony I will focus on DoD budget numbers rather than those for the national defense function; in 1987, the DoD budget makes up 97 percent of the national defense function.) In 1987, DoD spent about 38 percent of its

budget on pay and allowances for its personnel (see Figure 3). About two-thirds of that pay bill went to military personnel, including 2.2 million active-duty military personnel and 1.1 million part-time reserves. The remainder of the pay went to the 1.1 million civilians employed by DoD. Other, nonpay operating costs consumed 18 percent of DoD's 1987 budget. These funds pay for thousands of items including such diverse purchases as small construction projects, training equipment, jet fuel, consulting services, and office supplies.

The rest of the 1987 defense budget paid for investment. DoD spent about 2 percent of its budget on the construction of military facilities and another 13 percent on research, development, test, and evaluation for military weapons. But the majority of the investment budget, and 30 percent of the DoD's total 1987 budget, went to procure new weapons. DoD pays for many things out of its procurement appropriation: major v/eapons, minor weapons and support vehicles, spare parts, and modifications. Indeed, the major weapons programs that you most frequently hear discussed--such as the MX missile, Bradley fighting vehicle, fighter aircraft, and aircraft carriers--make up only about 35 percent of the total procurement budget or roughly 10 percent of the total DoD budget. It is not surprising, therefore, that it is difficult--as the current Secretary of Defense often contends--to make substantial changes in the DoD budget by altering funds for major weapons. Doing so requires altering the whole of the DoD budget through changes in just 10 percent of the budget.

FIGURE 3. 1987 DEPARTMENT OF DEFENSE BUDGET AUTHORITY BY CATEGORY



SOURCE: Congressional Budget Office.

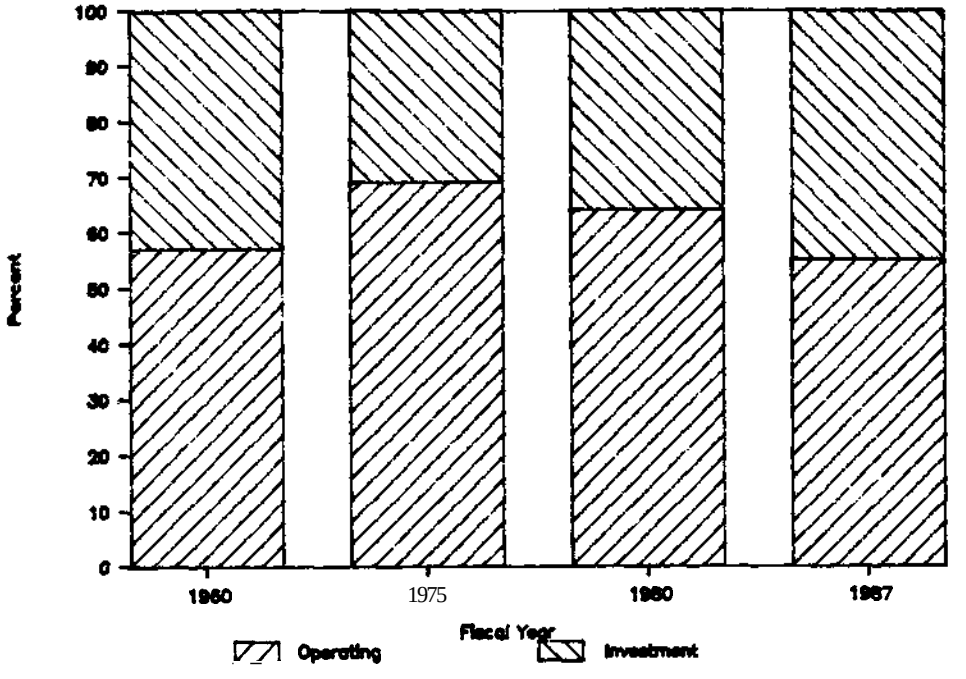
Although I could, of course, discuss many other patterns, I will choose just a few that bear on issues raised in connection with U.S. defense budgets.

AdequacyofOperatingBudgets

Some people are concerned that DoD is not spending enough on the operating portion of its budget-including pay and non-pay operating costs--and instead is spending too much on the remaining part of the budget that pays for investment. The Senate Armed Services Committee, for example, expressed these concerns in its latest committee report. Low military readiness in the late 1970s, which may have been caused partly by low operating budgets, heightens this concern. So too does the emphasis accorded investment funding by this Administration. Between 1980 and 1987, real budget authority for investment grew by 82 percent while operating funds grew by 25 percent.

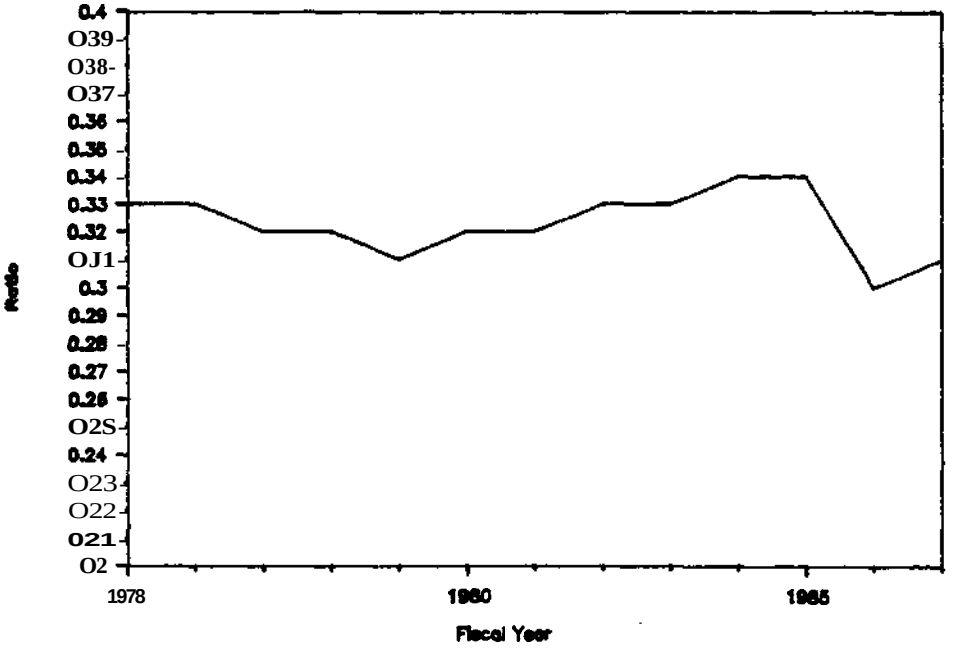
Unfortunately, no widely accepted relationship permits clear judgments about the adequacy of operating funds. Nor can analysts relate diverse operating funds to measures of military readiness with any precision. Instead one must rely on crude guides. Past budget shares accorded to operating costs are one such guide. Between 1960 and 1980, operating costs consumed between 55 percent and 68 percent of DoD's budget (see Figure 4). Reflecting this Administration's emphasis on investment, the operating portion of the budget has fallen to 55 percent, equal to the lowest

FIGURE 4. PERCENTAGES OF DoD BUDGET DEVOTED TO OPERATING COSTS



SOURCE: Congressional Budget Office.

FIGURE 5. RATIO OF REAL DoD OPERATING COSTS TO REAL VALUE OF MAJOR WEAPONS



SOURCE: Congressional Budget Office.

level experienced since 1960. Thus, by this measure, there may be cause for concern. The relationship between operating funds and the dollar value of DoD's stock of major weapons provides another rough guide. Since 1975, the ratio of real operating costs to the real value of major weapons has been relatively constant, varying from 0.31 in 1979 to a high of 0.34 in 1985 (see Figure 5). In 1987 it stands at 0.31, near its low point. Moreover, the dollar value of major weapons will grow in coming years because of the emphasis on investment in recent budgets. Thus, if this ratio is to remain within its historical range, operating funds will have to increase.

While these trends suggest upward pressure on operating budgets, they are not conclusive. Some new weapons now entering the fleet are designed to economize on operating costs--if successful these would hold down total operating costs--and efficiencies might allow lower operating budgets to provide more support without risking adverse effects on readiness. Given the trends suggesting upward pressure on operating budgets, however, it seems fair to conclude that it will be difficult to make substantial real reductions in this portion of the budget. In other words, any real reductions in the total defense budget would have to come principally from investment funds.

Indeed that has already begun to happen; defense reductions mandated by the Congress during the last few years have come disproportionately from investment funds. This development may not be surprising since investment spending grew so much faster than operating costs in the early 1980s. But lower investment budgets will require difficult choices about starts of new weapons and rates of production on ongoing systems.

Emphasis on Strategic Funding

Another budget concern centers on funding for strategic nuclear forces. In its latest report, the House Armed Services Committee called for a shift of funds from strategic forces to conventional forces, arguing that "priorities expressed in the defense budget have been skewed the wrong way." The Senate Armed Services Committee argued that new strategic initiatives must receive special scrutiny.

The portion of the DoD budget being devoted to strategic forces is higher than in 1980 but still remains within the historical range. In 1987, DoD will devote about 12 percent of its budget to strategic forces (see Figure A-2 in the Appendix). (All these estimates rely on DoD's definition of what constitutes strategic spending.) That amount exceeds the 1980 level of 10 percent and exceeds the levels for much of the 1970s, which ranged from 9 percent to 12 percent. But the United States devoted as much as 23 percent of its budget to strategic forces in 1962, during the early phases of the U.S. strategic buildup. Thus, today's levels are well within the historical range. It is also interesting to note that strategic forces have always been a relatively small part of DoD's budget despite the extensive policy debates they generate.

Current DoD plans suggest that strategic costs could well grow as a portion of DoD budgets. A number of major systems--including the stealth bomber, small missile, rail MX missile, and Trident II missile--are all entering or nearing the expensive procurement stage. Also, research funding for the Strategic Defense Initiative would grow rapidly under Administration plans.

Nonetheless, it seems unlikely that the strategic share of DoD's budget will grow beyond historical levels in the next few years. The Secretary of Defense has testified that, if the total DoD budget grows as the Administration proposes, then strategic funding would not exceed 15 percent of the total budget over the next five years. That percentage could rise significantly if major systems continue as planned while total DoD budgets are held constant or reduced. But it seems unlikely that the percentage would rise above the historical high of 23 percent reached in the early 1960s.

Of course, these percentages are just one piece of information needed to judge the appropriateness of strategic funding. That judgment must weigh strategic costs against the value of those weapons in achieving U.S. defense goals. Those goals depend in turn on the United States' fundamental strategy concerning the threats this country is willing to meet. Nonetheless, the recent reports of the Armed Services Comn-.ittees suggest that both committees have doubts about continued increases in strategic funding.

Service Shares

In recent years, concerns have been raised about the allocation of the defense budget among the military services and hence among major mission areas. This year, for example, because of Army plans to terminate production of several major weapons, the House Armed Services Committee argued for an increase in funds for Army procurement, despite overall budget cuts.

The services' shares of the total DoD budget have not changed markedly between 1980 and 1987. Interestingly, despite progress toward the goal of achieving 600 ships, the Navy lost two percentage points of budget share between 1980 and 1987, while the Army lost almost one point (see Table A-2 in the Appendix). The Air Force gained about a point and a half, while defense agencies--which include funding for the Strategic Defense Initiative within their budgets--have gained about one point.

Shifts in investment funding have been more pronounced. Between 1980 and 1987, the percentage of total DoD investment funds provided the Army and Navy has declined, while the Air Force and the defense agencies gained; the large gain by the defense agencies again reflects growth in research on the Strategic Defense Initiative (see Table A-3 in the Appendix).

These shifts reflect changes in mission emphasis, with the Air Force and defense agencies benefitting from the emphasis on strategic nuclear forces discussed above. As was the case with strategic forces, service budget trends raise questions but do not provide enough information to answer them.

Quantity Versus Quality

Perhaps no defense issue has been more enduring or contentious than the question of how to spend limited procurement funds: whether to buy large numbers of weapons, each individually less capable, or smaller numbers of weapons, each more expensive and capable. The military services generally

favor fewer of the more capable weapons, arguing that the United States and its allies will always have fewer weapons than our potential adversaries and must compensate with highly capable systems. Defense reformers demur, arguing that, as Lenin put it, quantity has a quality all its own.

Whatever the arguments, budget trends suggest how markedly the United States has opted for more costly and presumably more capable weapons. Table 1 compares the most recent seven-year period, 1981-1987, with the previous seven years. For several major categories of weapons, the table shows numbers of weapons purchased and total spending in constant 1988 dollars. The boxed columns on Table 1 show changes, period to period, in numbers and spending. In all weapons categories save two, spending grew by a larger percentage than numbers of weapons purchased, often by a much larger percentage. For example, the United States bought 8 percent more combat aircraft in the most recent seven years than it did in the previous seven but spent 59 percent more to buy them. This country bought the same number of combatant ships but spent 46 percent more; we bought 99 percent more heavy tanks and combat vehicles but spent 198 percent more.

The faster increases in costs reflect both shifts in the mix of types of weapons and in the cost of weapons within each type. For example, the more recent seven-year period saw the purchase of 100 B-1B bombers; during the earlier period, the United States purchased only three strategic bombers of any type (test versions of the B-1A bomber). This shift in mix toward expensive bombers pushed up costs of combat aircraft faster than numbers. Shifts toward more capable systems also contribute to these

TABLE 1. COMPARISON OF NUMBERS PURCHASED AND DOLLARS SPENT, 1974-1980 VERSUS 1981-1987

Weapons Type	Numbers Purchased			Total Spending (In billions of constant 1988 dollars of budget authority)		
	1974-1980 a/	1981-1987	Percent Increase (+)/ Decrease (-)	1974-1980 a/	1981-1987	Percent Increase
Fixed-Wing Aircraft						
Combat	2,765	2,973	+8	64.8	103.3	+59
Airlift	233	276	+18	1.3	11.2	+762
Rotary Aircraft	975	1,748	+79	4.3	17.4	+305
Missiles						
Strategic/TNF	1,405	3,686	+162	10.6	20.9	+97
Tactical	270,470	**214,899**	-21	14.6	30.8	+110
Ships						
Combatants	91	91	0	47.0	68.8	+46
Other	21	91	333	4.1	4.7	+15
Tanks and Combat Vehicles						
Heavy	4,898	9,747	+99	6.7	20.0	+198
Light	5,298	2,985	-44	1.1	1.1	0
Other	1,504	3,476	+131	1.2	4.2	+250

SOURCE: **Congressional** Budget **Office.**

a. Excludes transition quarter.

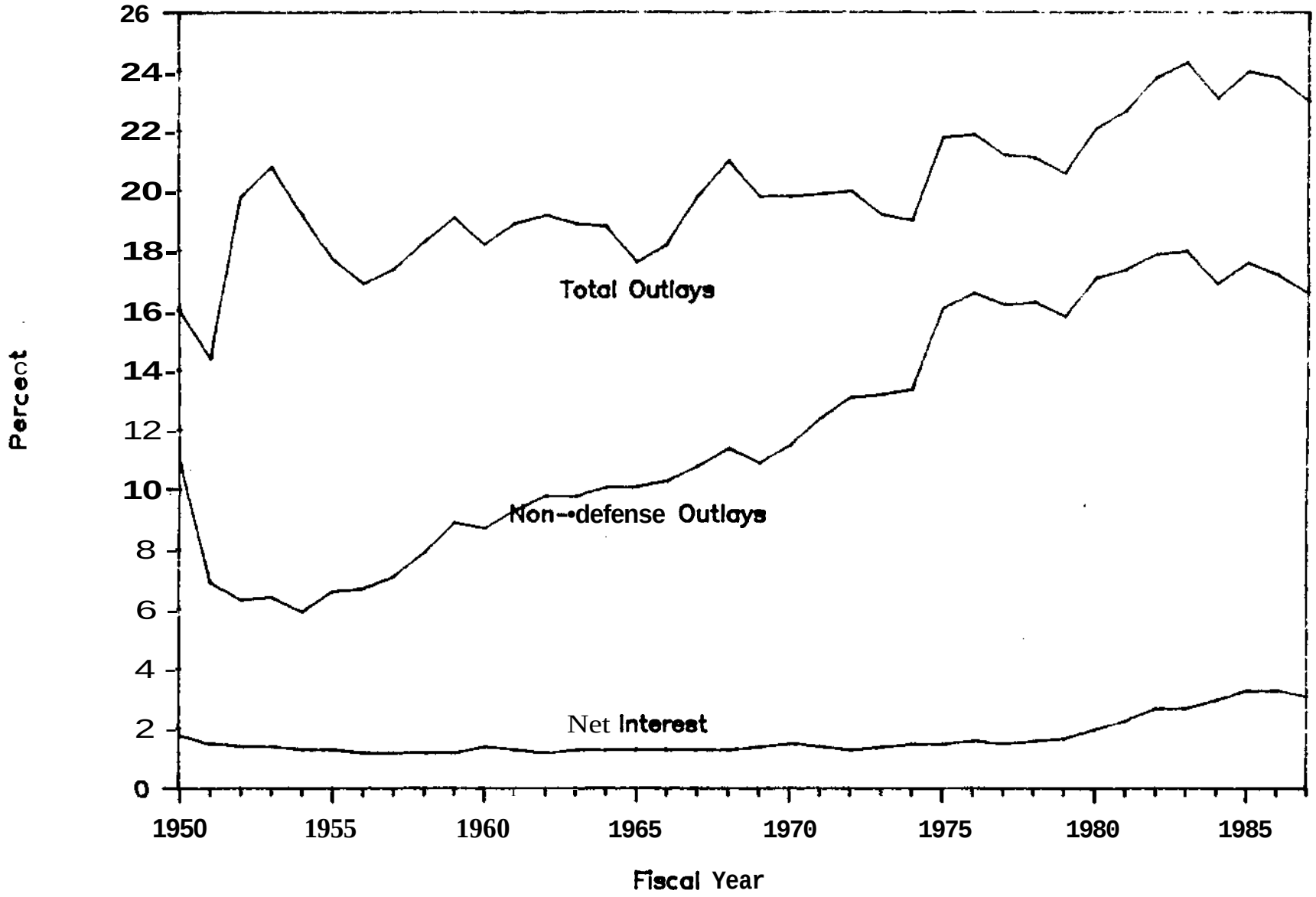
trends. During the most recent seven-year period, the United States bought substantial numbers of the expensive M-1 tank; most tanks purchased during the earlier period were the less expensive M-60 version.

These trends do not provide a basis for firm conclusions. The desirability of more expensive and capable weapons depends on uncertain trade-offs between numbers and unit capability. The trends do suggest the degree to which the United States has opted for more costly weapons.

Indeed I think these figures epitomize both the value and the limits of dealing with defense issues based on budget trends. The trends can help identify questions and provide perspective. The sharp trend toward more costly weapons, coupled with limits on total defense spending, raises questions about dwindling numbers of forces. Operating costs that lie at the lower end of historical ranges raise questions about the ability to trim this portion of the budget. But budget trends alone cannot answer these questions. Answers require more information--for example, the benefits of higher quality weapons in wartime and the trends in factors determining needs for operating costs. Answers also depend on difficult judgments about benefits and costs. You may wish to focus on these judgments in the remainder of your defense hearings.

APPENDIX. SUPPLEMENTARY TABLES AND FIGURES

FIGURE A-1. FEDERAL SPENDING AS A PERCENT OF GNP



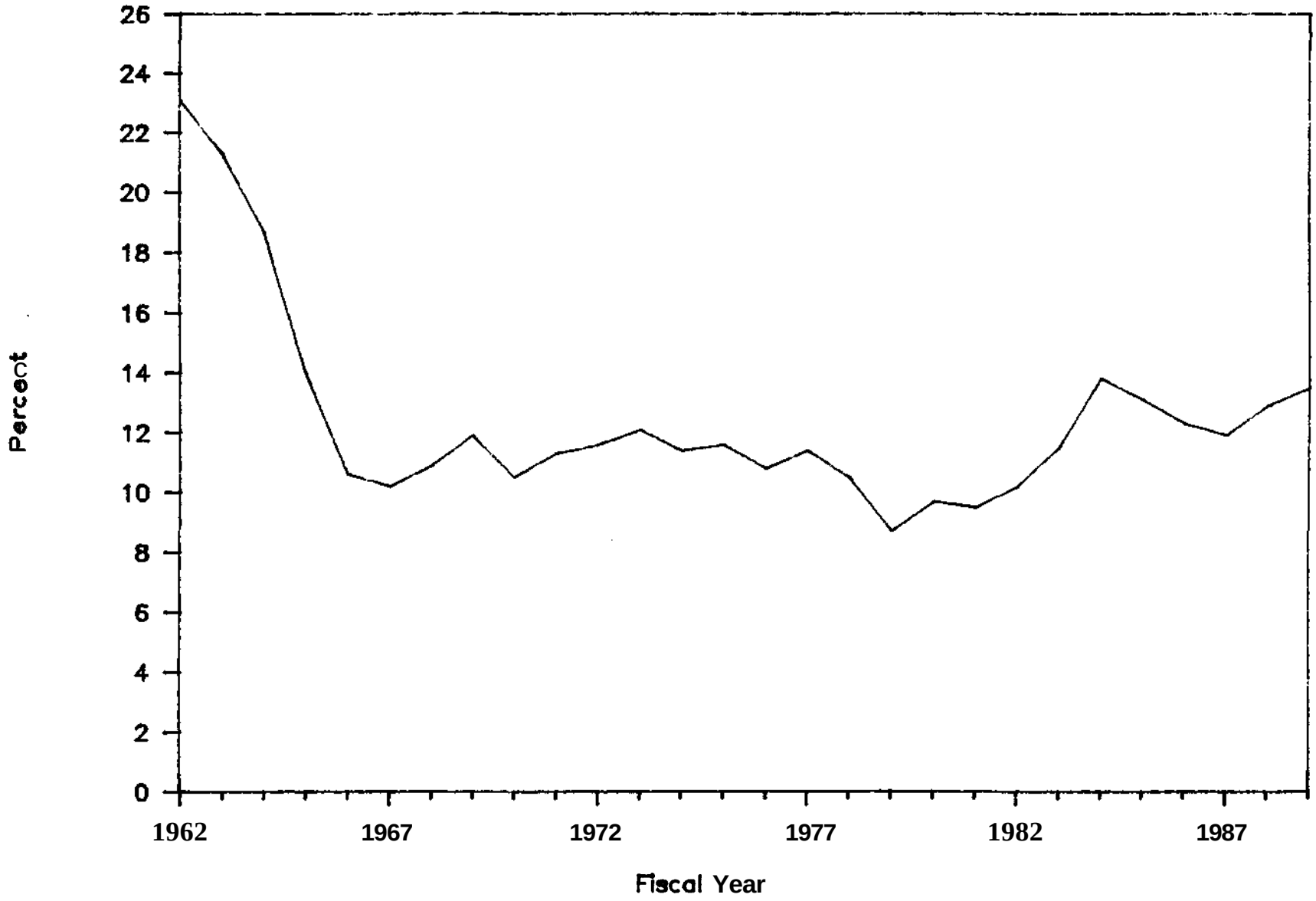
SOURCE: Office of Management and Budget.

TABLE A-1. PERCENTAGE OF GDP SPENT FOR DEFENSE IN 1985

Belgium	3.0
Canada	2.2
Denmark	2.2
France	4.1
Germany	3.2
Greece	7.1
Italy	2.7
Luxembourg	1.1
Netherlands	3.1
Norway	3.3
Portugal	3.1
Spain	2.7
Turkey	4.5
United Kingdom	5.3
Non-U.S. NATO Average	3.5
United States	6.7
NATO Average	5.4
Japan	1.0

SOURCE: *NATO Review*, vol. 35, no. 1, p. 33. Spanish data estimated by the Congressional Budget Office.

FIGURE A-2. STRATEGIC FORCES AS A PERCENT OF DoD BUDGET



SOURCE: **Congressional Budget Office.**

TABLE A-2. SERVICE BUDGET SHARES

Service	1975 a/	1980 a/	1985	1987	President's Budget 1988	President's Budget 1989
Army	27.6	27.2	25.9	26.5	26.4	26.2
Navy	34.7	35.8	34.5	33.8	33.7	33.6
Air Force	32.6	31.8	34.7	33.3	33.1	33.2
Defense-Wide	5.1	5.2	4.9	6.4	6.8	7.0
DoD Total	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: Congressional Budget Office.

a. Adjusted for accrual accounting.

TABLE A-3. SERVICE INVESTMENT SHARES

	1980	1984	1987	President's Budget 1988	President's Budget 1989
Army	20.0	20.0	18.0	17.4	16.7
Navy	41.0	34.0	35.0	34.5	34.4
Air Force	36.0	43.0	40.0	39.4	39.6
Defense-Wide	3.0	3.0	7.0	8.7	9.3
DoD Total	100.0	100.0	100.0	100.0	100.0

SOURCE: Congressional Budget Office.

a. Investment consists of Procurement, Research, Development, Test and Evaluation, and Military Construction.