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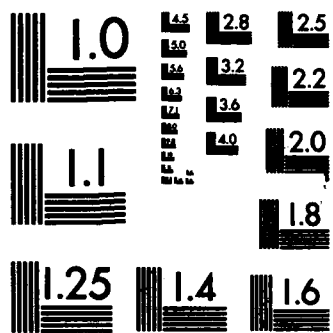
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THESIS

EXPENDITURE DISTRIBUTION TRENDS WITH REGARD TO
THE AVAILABILITY OF FUNDS IN THE DOA AND
DOAF BUDGETS

by

Michael P. Lopatto

June 1987

Thesis Advisor:

Jerry L. McCaffery

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REPORT DOCUMENTATION PAGE

1a REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b RESTRICTIVE MARKINGS	
2a SECURITY CLASSIFICATION AUTHORITY			3 DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited	
2b DECLASSIFICATION/DOWNGRADING SCHEDULE				
4 PERFORMING ORGANIZATION REPORT NUMBER(S)			5 MONITORING ORGANIZATION REPORT NUMBER(S)	
6a NAME OF PERFORMING ORGANIZATION Naval Postgraduate School	6b OFFICE SYMBOL (if applicable) Code 54	7a NAME OF MONITORING ORGANIZATION Naval Postgraduate School		
6c ADDRESS (City, State, and ZIP Code) Monterey, California 93943-5000		7b ADDRESS (City, State, and ZIP Code) Monterey, California 93943-5000		
8a NAME OF FUNDING/SPONSORING ORGANIZATION	8b OFFICE SYMBOL (if applicable)	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c ADDRESS (City, State, and ZIP Code)		10 SOURCE OF FUNDING NUMBERS		
		PROGRAM ELEMENT NO	PROJECT NO	TASK NO
		WORK UNIT ACCESSION NO		
11 TITLE (Include Security Classification) EXPENDITURE DISTRIBUTION TRENDS WITH REGARD TO THE AVAILABILITY OF FUNDS IN THE DOA AND DOAF BUDGETS				
12 PERSONAL AUTHOR(S) Lopatto, Michael P.				
13a TYPE OF REPORT Master's Thesis	13b TIME COVERED FROM TO	14 DATE OF REPORT (Year Month Day) 1987, June	15 PAGE COUNT 86	
16 SUPPLEMENTARY NOTATION				
COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	Budget, Outlays, DOAF, DOA, DOD, Expenditures, Incrementalism	
19 ABSTRACT (Continue on reverse if necessary and identify by block number) This thesis examines the factors that affected Army and Air Force spending for fiscal years 1955-1984. The four major appropriation categories were analyzed using budget shares, growth rates, and percentages of the respective services' budget totals. The data was then compared to DON and DOD spending trends to determine if consistent budget behavior exists within DOD. The result was that DOA and DOAF budgeting appears to be incremental in nature, with programmatic influences on new and controversial issues. Availability of DOD funds influenced the categorical spending for each of the services but in different ways. While DON followed the DOD pattern closely, DOA and DOAF budget emphasis reflected the nature of the individual service, which explains why Military Personnel received the largest DOA share, while Procurement received the highest percentage of the DOAF budget.				
20 DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS			21 ABSTRACT SECURITY CLASSIFICATION Unclassified	
22a NAME OF RESPONSIBLE INDIVIDUAL Professor Jerry L. McCaffery			22b TELEPHONE (Include Area Code) 408-646-2554	22c OFFICE SYMBOL Code 54Mm

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**Expenditure Distribution Trends With Regard to
the Availability of Funds in the DOA and DOAF Budgets**

by

Michael P. Lopatto
Lieutenant, United States Navy
B.A., University of Pittsburgh, 1980

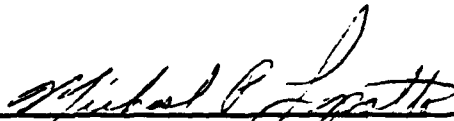
Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

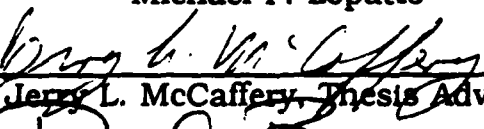
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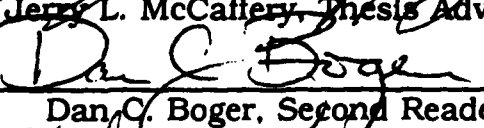
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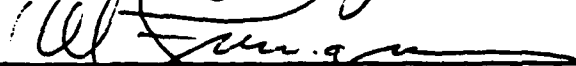
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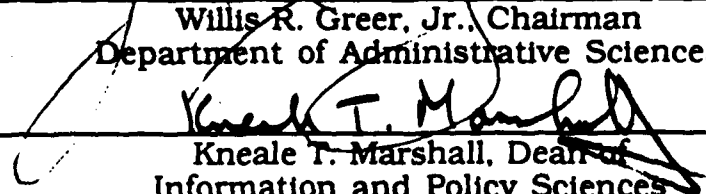

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ABSTRACT

This thesis examines the factors that affected Army and Air Force spending for fiscal years 1955-1984. The four major appropriation categories were analyzed using budget shares, growth rates, and percentages of the respective services' budget totals. The data was then compared to DON and DOD spending trends to determine if consistent budget behavior exists within DOD. The result was that DOA and DOAF budgeting appears to be incremental in nature, with programmatic influences on new and controversial issues. Availability of DOD funds influenced the categorical spending for each of the services but in different ways. While DON followed the DOD pattern closely, DOA and DOAF budget emphasis reflected the nature of the individual service, which explains why Military Personnel received the largest DOA share, while Procurement received the highest percentage of the DOAF budget.



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I. INTRODUCTION

Each year, it seems that defense spending receives greater visibility than any other portion of the federal budget. This is partly a question of size and partly due to attempts to answer the question of how much defense is enough. Historically, Congress has not always been as generous with the Department of Defense as it has during the first years of the Reagan presidency. The DOD budget is affected by complex environmental and political influences. Deciding how much is enough is particularly difficult to do in peacetime. This thesis traces defense spending patterns to show how the budget has varied over time.

How defense spending fluctuates is subject to debate among analysts. Some argue that defense spending is incremental in nature. This means that small aspects of the budget receive relatively small changes to their established "base" from year to year. The opposing point of view holds that recent defense budgeting is the result of special interests in programs which may receive larger increases than other programs. A compromise between these two schools of thought would reflect the budget as incremental in nature, with new and controversial programs falling into a programmatic scheme. This thesis analyzes the incremental and programmatic nature of defense spending patterns.

Anderson's thesis [Ref. 1] analyzed DOD's four largest spending categories from 1955 to 1984. He determined that the availability of

funds to DOD affected the different categories differently. Using each category's budget share, growth rates, and percentages of the annual DOD increment, Anderson concluded that the Executive budget included non-incremental adjustments, primarily in the areas of RDT&E (research, development, testing, and evaluation) and procurement. He further concluded that, of the categories studied, RDT&E had the most consistent success in competing for funds.

Benson's thesis [Ref. 2] used Anderson's approach in analyzing the Department of the Navy. Benson analyzed the four major appropriation categories within DON over the same 30-year period as Anderson. She concluded that the DON trends were similar to the DOD trends. Procurement in the Navy was the most sensitive to the availability of funds, while RDT&E receives its largest shares of the budget during "abundant" funding years.

One other work of note is a thesis by Danny A. Shockley [Ref. 3]. He analyzed DOD budget trends relative to the wealth of the nation (GNP) on the whole. Although this approach is not used in this evaluation of the Army and Air Force, it provides some answers to further defense budget questions.

This thesis extends the work done at the DOD and DON levels. The research question for this thesis is: Do all three services show similar trends over the 30-year period covered, or do the individual services offset so that the DOD average is not representative of any one service?

The next chapter will discuss the background for the study. Succeeding chapters will analyze a 30-year period of spending by the Departments of the Army and Air force. The final area of discussion will compare budget trend results of each service department, and how these trends fit into the aggregate DOD model of categorical spending.

The primary source for the budget data used in this thesis is from The Budget of the United States Government [Ref. 4] for fiscal years 1955 through 1986. Although the analysis only covers from 1955 to 1984, the 1985 and 1986 books were used for actual outlays in 1983 and 1984. GNP deflators used in 1972 constant dollar conversions were obtained from the Economic Report of the President for 1985 [Ref. 5].

II. BACKGROUND

"The defense establishment is invariably described as the servant of foreign policy." [Ref. 6] With this in mind, and realizing that defense spending accounts for the largest single agency portion of the federal budget, it is no wonder that it is held up to close financial scrutiny and political debate. Throughout the existence of a formal defense organization, its methods of monetary manipulation to achieve ends have spawned controversy. This chapter will describe some of the budgetary and political processes that have affected defense spending from the Korean War to the present.

At the most basic level, a budget is a statement relating income to expenditures. At the federal level, the government budget is, in addition, the most complex of public policies and the clearest statement that we have of the actual priorities of the national government. [Ref. 7]

The priorities of the legislative and executive branches rarely coalesce into a simple compromise. The annual defense budget reflects various interpretations of national security requirements, as well as pork barrel patronage spending. In addition, all aspects of the federal government expenditures are influenced by the current economic conditions, international relations, and reactions to high-impact events.

Certain aspects of budgeting literature concerning power status can be divided into two alternative paradigms. The first is the concept of the Institutional approach. The essence of this theory is that power resides in the position held within an organization, not the individual

in that position [Ref. 8]. Power is related to status, a status that correlates to a repository of power. The Pluralist approach, on the other hand, defines power as a function of actual participation in decision-making processes and not merely the holding of a key position [Ref. 8]. Power exists in personal interactions, as well as in formal status. The purpose of introducing these terms is to understand the approach to budget control practiced by key figures in defense budget formulation and execution. Presidents, congressmen, and Secretaries of Defense all have reflected a belief in one or the other of these concepts through their actions.

The roles of the President and Congress in the budget process are discussed at length in other works [Refs. 9, 10]. The President's office annually introduces a defense spending proposal. This proposal is usually a focused one. The defense budget, as with the remainder of the federal budget, must pass through the halls of Congress before returning to the President for final approval. "Because of power given to it by Constitution, statute, and practice, the Congress is one of the most important institutions in the budgetary process." [Ref. 8] Fenno notes that the essential bulwark of congressional power (in the context of the Appropriations Committee) is in protecting the power of the purse and serving as a guardian of the federal treasury. The role of the Senate Appropriations Committee, on the other hand, is that of an appeals court between agencies and the House [Ref. 11]. "The House committee staff reflects an emphasis on technical budgetary expertise with minimal political experience. The Senate staff is more policy-oriented and more politically experienced." [Ref. 8]

Regarding defense budgeting, Kanter [Ref. 12] noted that an uncritical examination of Congress' influence in the 1960s showed that Congress had little impact on the Pentagon. By breaking the budget down into expenditure categories, he discovered that most congressional changes in the defense budget concentrated in procurement and research and development. Later chapters will discuss categorical expenditure trends for the service departments.

A. INCREMENTAL VS. PROGRAMMATIC

The debate over the year-to-year progressive nature of the federal budget has resulted in two interpretations of the process. The first line of thought is the incremental theory. Increments are calculated from an existing base, which can be defined as "commonly held expectations among participants in budgeting that programs will be carried out at close to the going level of expenditures." [Ref. 13] The base does not normally come under scrutiny.

Wildavsky felt that the incremental approach is the most important aid to budget calculation. [Ref. 13]

The theory of budgeting incrementalism has also had considerable impact on our thinking about relations between Congress and the Executive branch. Based on a pluralistic notion of power, it holds that only marginal changes will be made from year to year in the level of an agency's appropriation. [Ref. 8]

This statement implies that congressional impact on budget items is not significant.

Other literature differs from this interpretation of congressional influence. By dividing the "base" into controllable and uncontrollable portions, the incremental change seems more affected by Congress.

when considering the controllable portion of the budget. Leloup [Ref. 14] proposed that there is a myth of incrementalism, that it is a theory biased toward stability and against change. Incrementalism, he adds, is self-fulfilling in nature.

The second school of budgeting theory is that of programmatic budgeting. In the 1960s and early 1970s, program budgeting was introduced into the federal government under the Planning-Programming-Budgetary-System (PPBS). It was first introduced into the Department of Defense by Secretary Robert McNamara in 1961. "It was an attempt by the federal government to move away from an incremental decision process into a rational-comprehensive mode." [Ref. 15]

PPBS proposed achievement of the budget by: (1) specification of goals; (2) identification of alternative mechanisms for achieving the goals; (3) cost-benefit analysis of each alternative; and (4) long-term (multi-year) planning and analysis [Ref. 15].

One of the reasons for PPBS's introduction into DOD was that, as of 1961, centralization within DOD was unsatisfactory. The services remained essentially independent entities. "Each service emphasized its own missions at the expense of joint missions." [Ref. 16] The defense budget was not the vital policy instrument it should have been. It was merely a bookkeeping device to keep track of service expenditures. It was not very helpful in planning and analysis. For example, duplication in RDT&E was labeled as a problem in the early 1960s. A centralized process could keep a more effective tab on redundancies among the services.

Some have argued that rivalries between the services is a great gain because both Congress and the public can be kept informed of controversial issues when policy is at a formative stage and can then exert an influence on the outcome. [Ref. 17]

The fundamental idea behind PPBS in defense was based on explicit criteria for defense programs, not merely decisions by compromise among institutions. [Ref. 16]

The purpose of PPBS was to develop these criteria.

Two points that McNamara's introduction of PPBS in 1961 hoped to resolve were the role of the Secretary of Defense and centralization as policy in DOD budgeting.

The PPBS has become the device by which to do the centralized planning; through it national security objectives are related to strategy; strategy to forces, forces to resources, and resources to costs. [Ref. 6]

The feeling existed that the revolution in military technology and the large amount being spent on defense required this centralization. Under PPBS, more and better information was now available to the Secretary and others. In addition, alternative choices were identified for centralized decision making.

The vehicle introduced in DOD to carry out PPBS was the Five-Year Defense Plan (FYDP). This plan initiated multi-year budget streams, allowed for long-range force level planning, and provided data for adequate analysis and subsequent budget revisions. Military programs were broken down into basic "program elements" which combined costs and benefits of specific details of a program. The FYDP aided the services in coordinated planning and assured orderly program changes.

While McNamara introduced PPBS in DOD, he did not fully intend for centralization to dominate all aspects of DOD management. "A

fundamental principle of management, in his view, was never do anything at a higher echelon that can be done at a lower echelon." [Ref. 6] Regardless of this sentiment, McNamara still practiced an informed, dynamic, centralized style of leadership. Other Secretaries of Defense established themselves as ranging from aggressive, centralized leaders to passive implementers of presidential policy.

There were some inherent drawbacks to the PPBS system. The two most noteworthy were first, the large staff requirements to implement and maintain the system, and second, the lack of trained personnel to perform the often sophisticated calculations required.

B. THE STUDY

The influences discussed in this chapter are but a few in the overall development and execution of the defense budget. Theses by Anderson and Benson [Refs. 1, 2] have evaluated the various aspects of budget theory relating to DOD and DON spending, respectively. The next two chapters will analyze the budget numbers for the Departments of the Army and Air Force. The research question for this thesis was to discover the extent to which each service was identical to or departed from the historical spending pattern of the Department of Defense. The answer that we will see in Chapters V and VI is that, although Benson concluded that DON resembles DOD, the Army and Air Force show greater deviation from the aggregate.

III. DATA BASE AND RESULTS. DEPARTMENT OF THE ARMY

A. SOURCES AND EXPLANATIONS

The primary sources of budget data are the same as listed in Chapter I—The Budget of the United States Government for Fiscal Years 1955 through 1986 and The Economic Report of the President for 1985 [Refs. 4, 5]. This chapter will apply Anderson's analytical approach to the Department of the Army.

This thesis discusses only the four largest categories found in Department of the Army (DOA) appropriations. The four categories are Military Personnel (MP), Operations and Maintenance (O&M), Procurement (PROC), and Research, Development, Testing, and Evaluation (RDT&E). These four categories account for the bulk of DOA spending for any given year, averaging 93 percent in 1955 and 96 percent in 1985.

The Military Personnel category includes all active and reserve personnel contingents under the cognizance of the DOA. Several years covered in this study also include appropriate aspects of the Army National Guard personnel whose funding came from the DOA budget funds.

The Operations and Maintenance category refers to funds allocated to cover the costs of maintaining and operating all equipment used in direct line or support functions of Army missions.

The Procurement category refers to the costs of acquiring aircraft, missiles, vehicles, weapons, and other equipment used in the

DOA. It should be noted that during the period of the study the sub-categories under Procurement changed administratively but the items covered remained the same.

Research, Development, Testing, and Evaluation refers to the funding allocated to the engineering and administrative aspects of development of equipment.

The figures emphasized are the actual outlays for each fiscal year. This modifies the approach taken by Benson in her analysis of the Department of the Navy. Benson used budget year estimates for each year. Actual outlay figures are a more accurate measurement of the total budgeting and related political processes. Appendices B, C, and D demonstrate that the differences between estimates and actual expenditures are sometimes significant.

B. RESULTS

A look at the aggregate DOA picture shows that outlays rose from \$9.891 billion in 1955 (current dollars) to \$51 billion in 1984. This reflects an average annual increase of \$1.422 billion. Upon conversion to 1972 constant dollars, we see that the range is narrowed. Outlays totaled \$16.257 billion in 1955 as compared to \$22.891 billion in 1984, which reflects a constant dollar average annual increase of only \$.228 billion. Looking at individual years shows a different pattern than the average increase, with the size and direction of the annual changes varying greatly during the 30 years covered.

1. Distribution Behavior

Figure 3.1 represents the overall Army spending trends for the period covered. Although the overall picture shows an increase from start to finish, the peaks and valleys point out dramatic yearly changes, such as the large increases during the height of the Vietnam conflict.

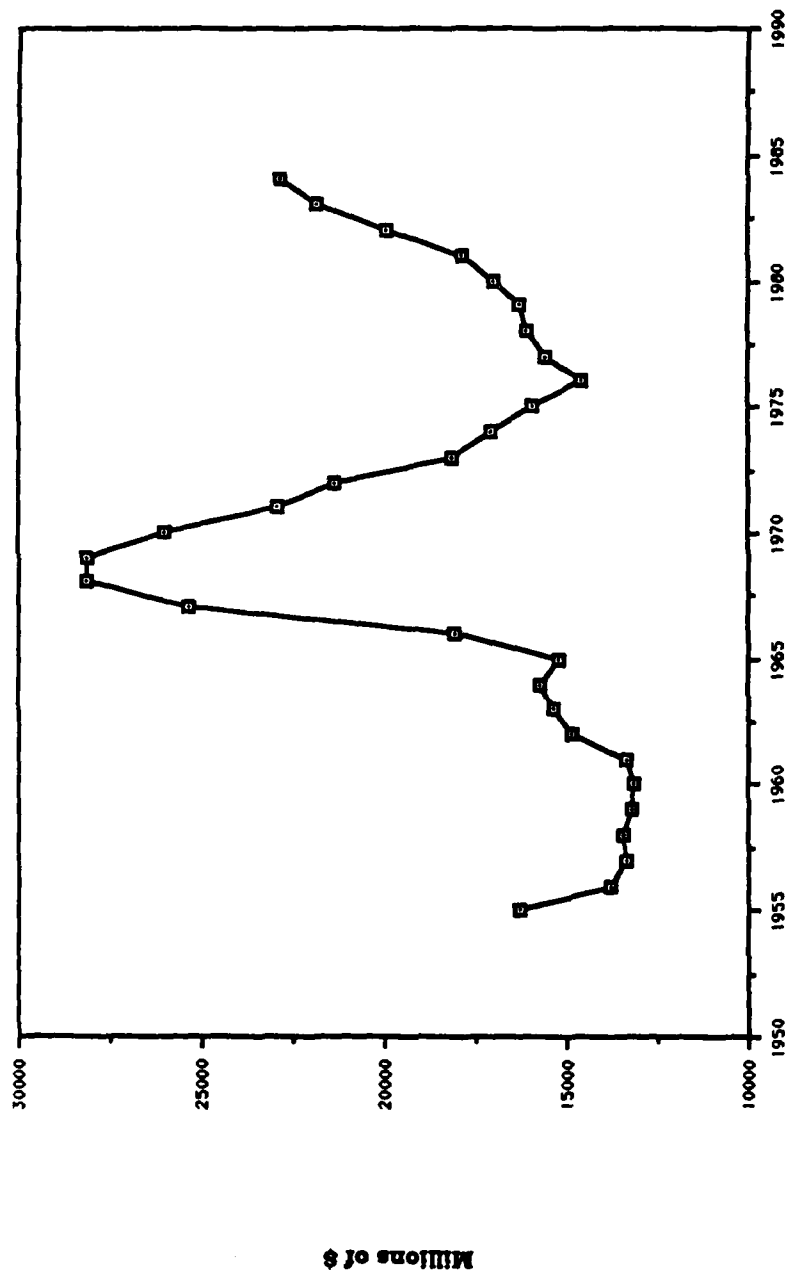
Figure 3.2 shows how the four DOA major categories maintained their basic relative rank during the years presented. Although Procurement had more erratic behavior relative to the amounts involved in the category, and Operations and Maintenance overtook Military Personnel as the lead category, the aggregate picture settles into a common pattern throughout.

Table 3.1 is a good indicator of DOA's spending emphasis in any given year. The breakdown by percent of total Army outlays reflects department priorities combined with the political affects of external influences for that year.

2. Availability of Funds

This analysis will follow a model established by Anderson in his thesis on Department of Defense outlay distribution [Ref. 1]. This model was also used by Benson in her thesis concerning Department of the Navy spending [Ref. 2]. Comparisons to the DOD and DON studies will be discussed in chapter V.

Anderson broke his DOD data into three basic year periods. The "Abundant" top ten years consist of the ten years that experienced the greatest percent increase from the previous fiscal year.



Fiscal Years

Figure 3.1

Army Outlays in Constant 1972 Dollars (in Millions)

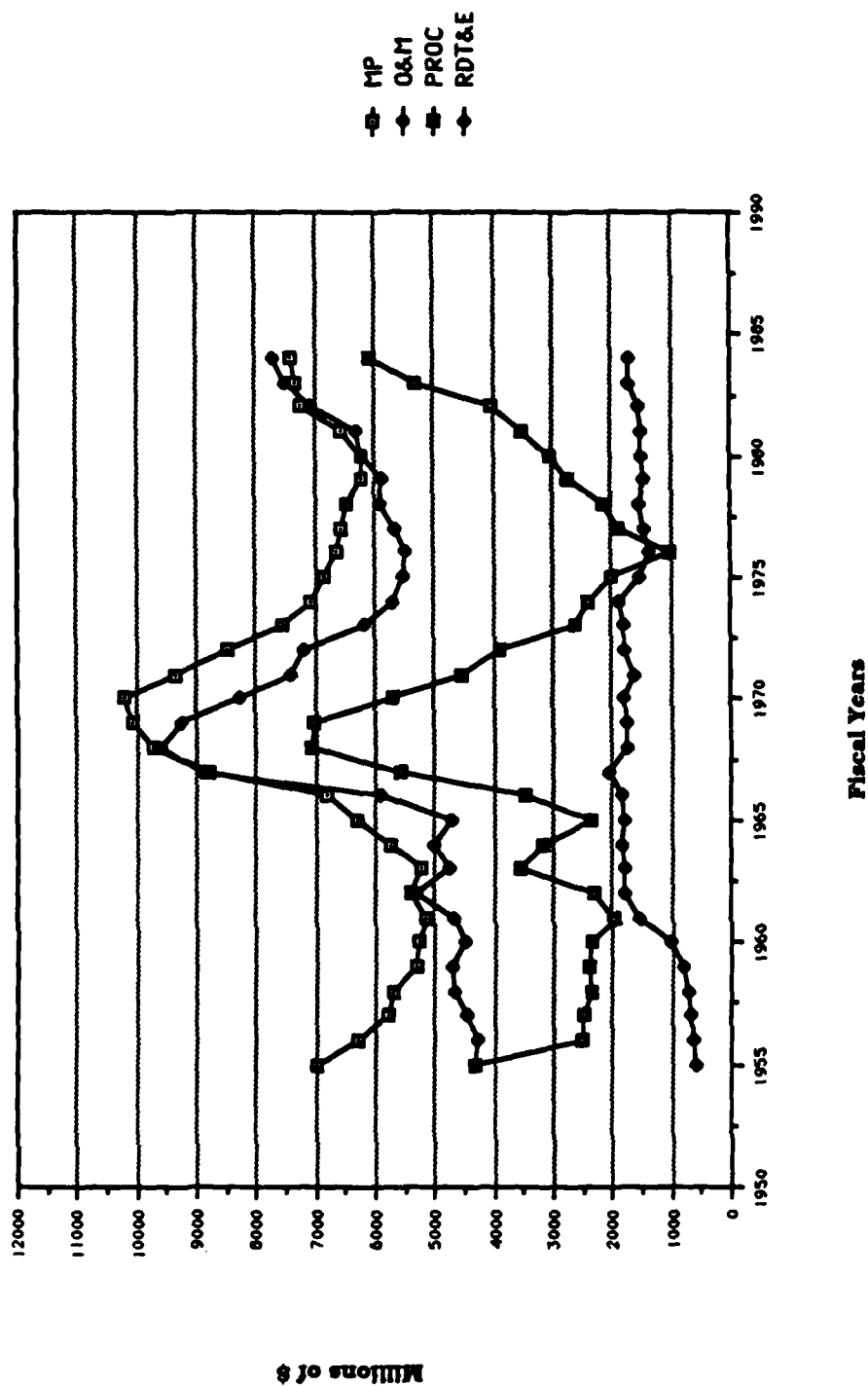


Figure 3.2
Army Outlays in Constant 1972 Dollars (in Millions)

TABLE 3.1

**CATEGORIES AS A PERCENT OF ARMY
MAJOR OUTLAYS TOTAL**
(Current Dollars)

<u>FY</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	9,891	42.9	26.7	26.6	3.8
1956	8,651	45.7	31.2	18.3	4.8
1957	8,674	43.3	33.3	18.5	5.0
1958	8,859	42.5	34.7	17.5	5.4
1959	8,951	40.2	35.6	18.2	6.0
1960	9,037	40.2	34.2	17.8	7.8
1961	9,266	38.5	35.0	14.9	11.6
1962	10,470	36.4	35.7	15.6	12.3
1963	10,998	34.0	31.1	23.3	11.6
1964	11,455	36.4	31.8	20.2	11.7
1965	11,297	41.6	31.0	15.6	11.9
1966	13,846	37.8	32.7	19.3	10.2
1967	20,040	34.7	35.2	21.9	8.2
1968	23,224	34.5	34.1	25.1	6.2
1969	24,399	35.8	32.9	25.1	6.2
1970	23,762	39.2	31.9	21.9	7.0
1971	22,009	40.7	32.4	19.8	7.1
1972	21,351	39.8	33.6	18.2	8.3
1973	19,206	41.6	34.0	14.5	10.0
1974	19,663	41.5	33.2	14.2	11.1
1975	20,031	43.0	34.6	12.6	9.8
1976	19,264	45.7	37.7	7.0	9.6
1977	21,804	42.0	36.5	12.0	9.5
1978	24,153	40.2	36.7	13.4	9.7
1979	26,639	38.2	36.0	16.8	9.0
1980	30,307	36.6	36.6	17.9	8.9
1981	34,944	36.8	35.2	19.6	8.5
1982	41,302	36.3	35.6	20.3	7.8
1983	47,066	33.6	34.3	24.3	7.8
1984	51,134	32.4	33.6	26.5	7.5
MEAN		39.37	33.9	18.56	8.48

The "Middle" years likewise include the next ten years under the percent increase criteria, and the bottom nine years are labeled the "Lean" years when DOD funds were "tight."

Table 3.2 presents the constant dollar data for the Abundant years in terms of percent of the total spent per category. The ordering of the years is descending with the top receiving the largest increase from the previous year. Military Personnel received the highest average of funds for these years. The Army is a manpower-intensive organization, so this revelation comes as no surprise. O&M is second during abundant years, but not far behind MP. In three of the ten years, O&M exceeded MP. Procurement was third and RDT&E last. Figure 3.3 depicts this relationship graphically.

Table 3.3 and Figure 3.4 present the "Middle" years of this format. Once again, MP received the largest share of the total, with O&M second, followed by Procurement and RDT&E respectively. The graph shows that the pattern is similar for all four categories.

Table 3.4 and Figure 3.5 present the data for the "Lean" years. Despite the difference in overall availability of DOD funds, the DOA maintained its apparent spending priorities, with MP receiving the largest share, followed by O&M, Procurement, and RDT&E.

3. Growth Rates

Table 3.5 presents DOA outlays as a percent change from the previous fiscal year. We find that during the period covered, total Army spending rose 1.66 percent in constant dollar terms. Individual categories show that MP grew an average of .53 percent, O&M 2.65

TABLE 3.2

PERCENT OF DOA TOTAL—ABUNDANT YEARS
(Constant Dollars)

<u>FY</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>	<u>TOTAL</u>
1982	36.3	35.6	20.3	7.8	19,916
1968	34.5	34.1	25.1	6.2	28,137
1963	34.0	31.1	23.3	11.6	15,346
1983	33.6	34.3	24.3	7.8	21,857
1967	34.7	35.2	21.9	8.2	25,347
1960	40.2	34.2	17.8	7.8	13,155
1984	32.4	33.6	26.5	7.5	22,891
1977	42.0	36.5	12.0	9.5	15,569
1964	36.4	31.8	20.2	11.7	15,740
1969	35.8	32.9	25.1	6.2	28,113
MEAN	36.0	33.9	21.7	8.4	20,611
MED	35.25	34.2	22.6	7.8	20,887

TABLE 3.3

PERCENT OF DOA TOTAL—MIDDLE YEARS
(Constant Dollars)

<u>FY</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>	<u>TOTAL</u>
1981	36.8	35.2	19.6	8.5	17,865
1958	42.5	34.7	17.5	5.4	13,414
1962	36.4	35.7	15.6	12.3	14,828
1976	45.7	37.7	7.0	9.6	14,557
1959	40.2	35.6	18.2	6.0	13,241
1978	40.2	36.7	13.4	9.7	16,057
1975	43.0	34.6	12.6	9.8	15,924
1973	41.6	34.0	14.5	10.0	18,161
1961	38.5	35.0	14.9	11.6	13,366
1974	41.5	33.2	14.2	11.1	17,086
MEAN	40.6	35.2	14.8	9.4	15,450
MED	40.0	35.1	14.7	9.8	15,376

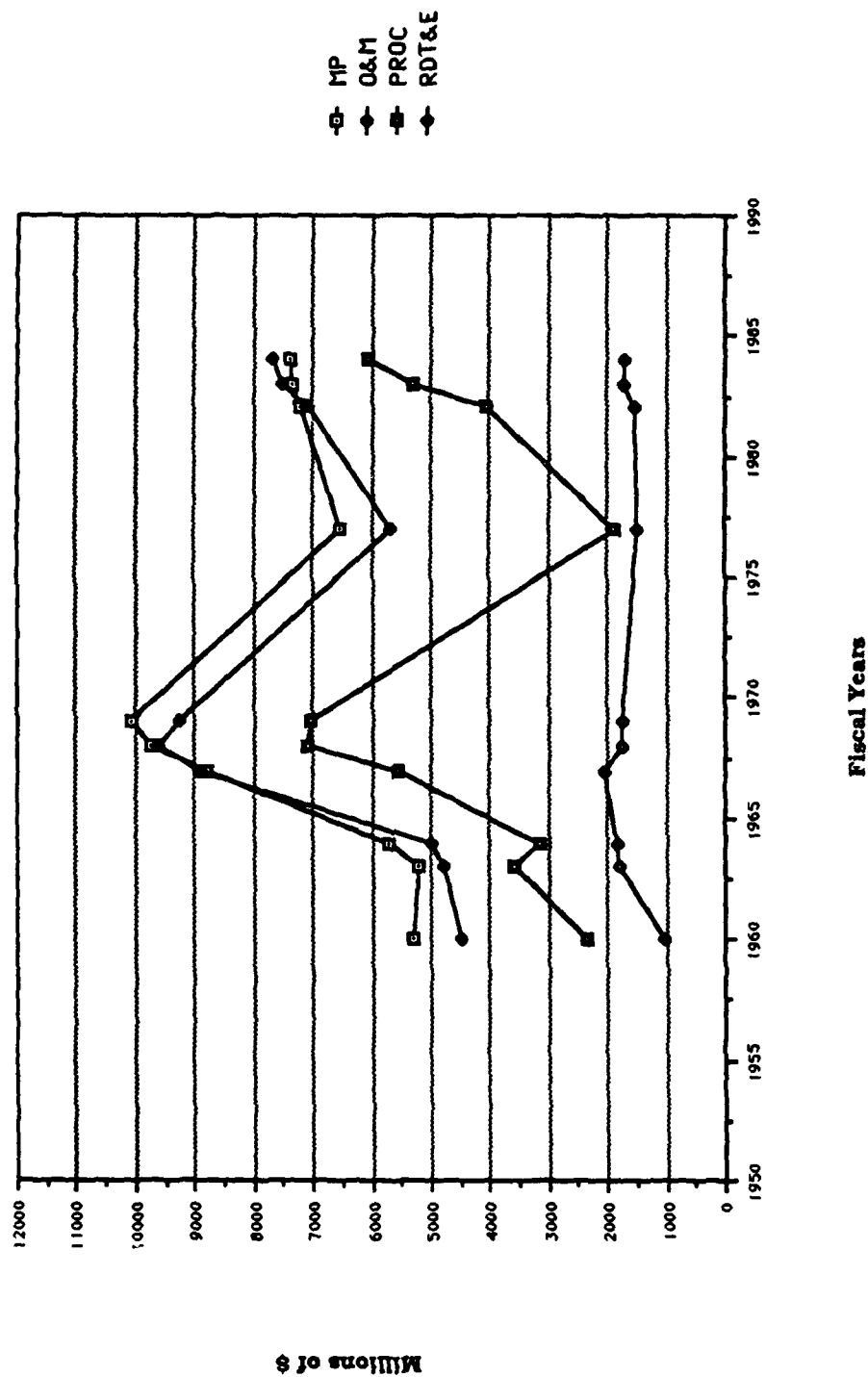


Figure 3.3
DOA Outlays, Abundant Ten Years (Constant 1972 Dollars)

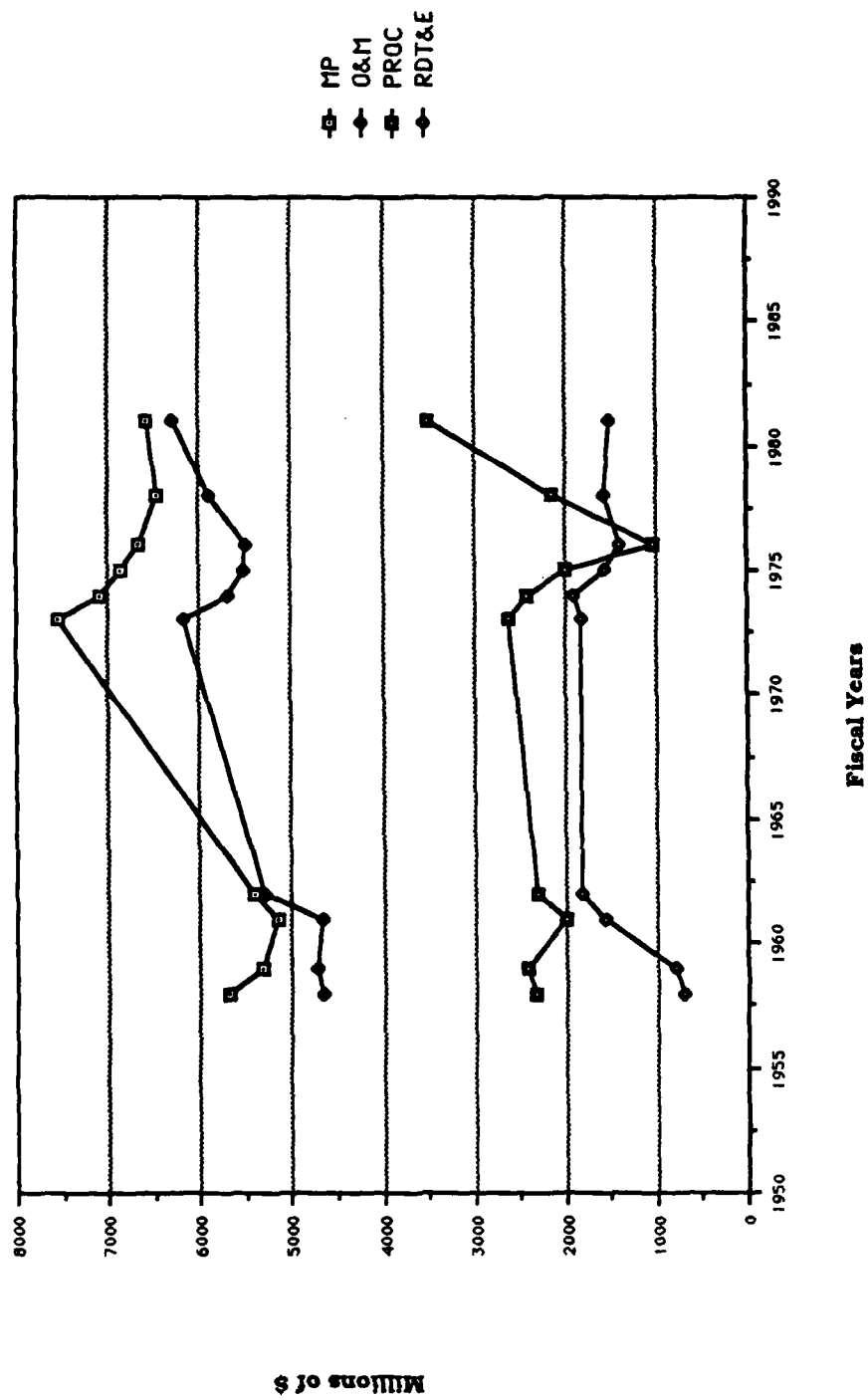


Figure 3.4
DOA Outlays, Middle Ten Years (Constant 1972 Dollars)

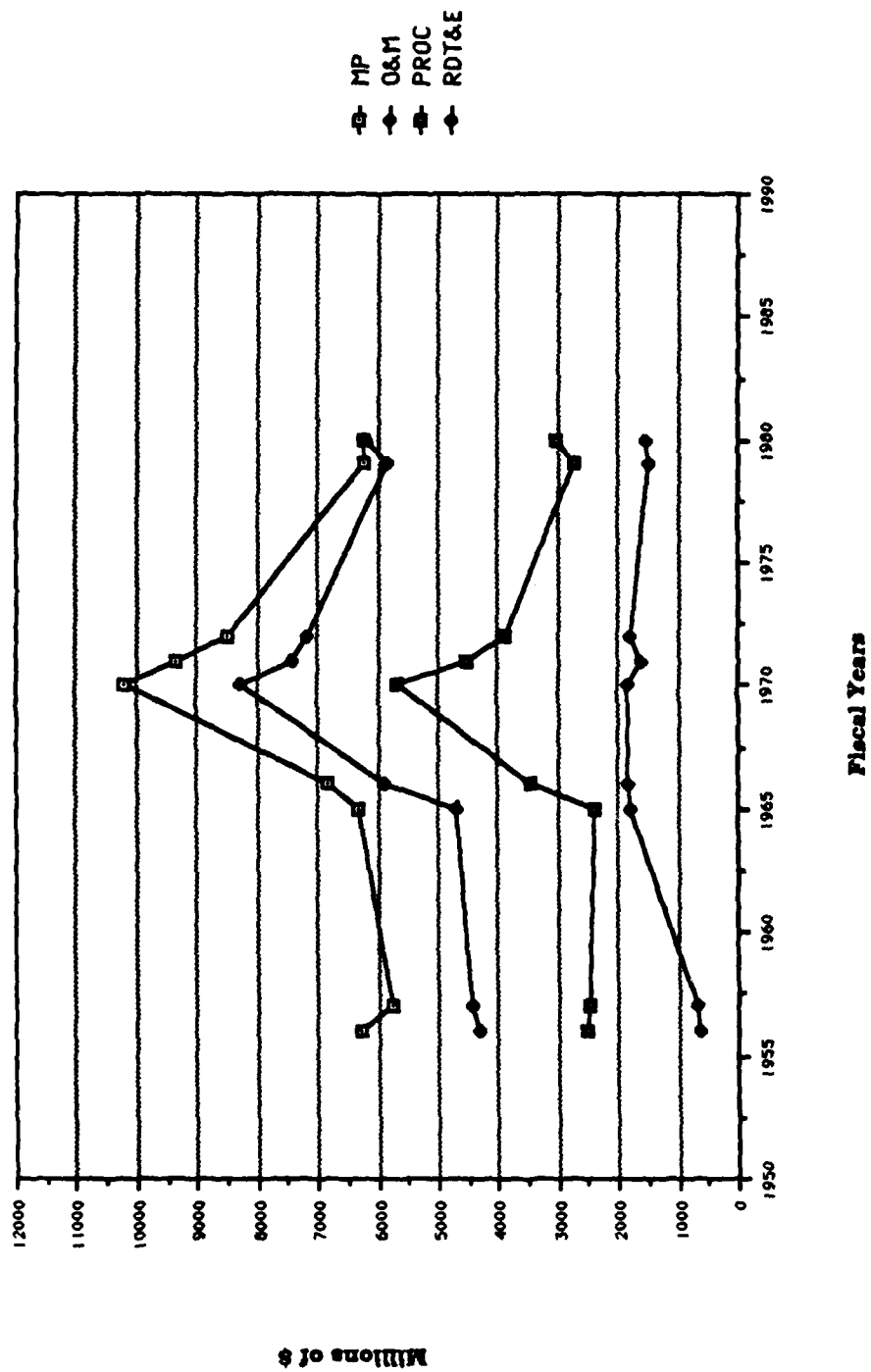


Figure 3.5
DOA Outlays, Lean Nine Years (Constant 1972 Dollars)

TABLE 3.4
PERCENT OF DOA TOTAL—LEAN YEARS
(Constant Dollars)

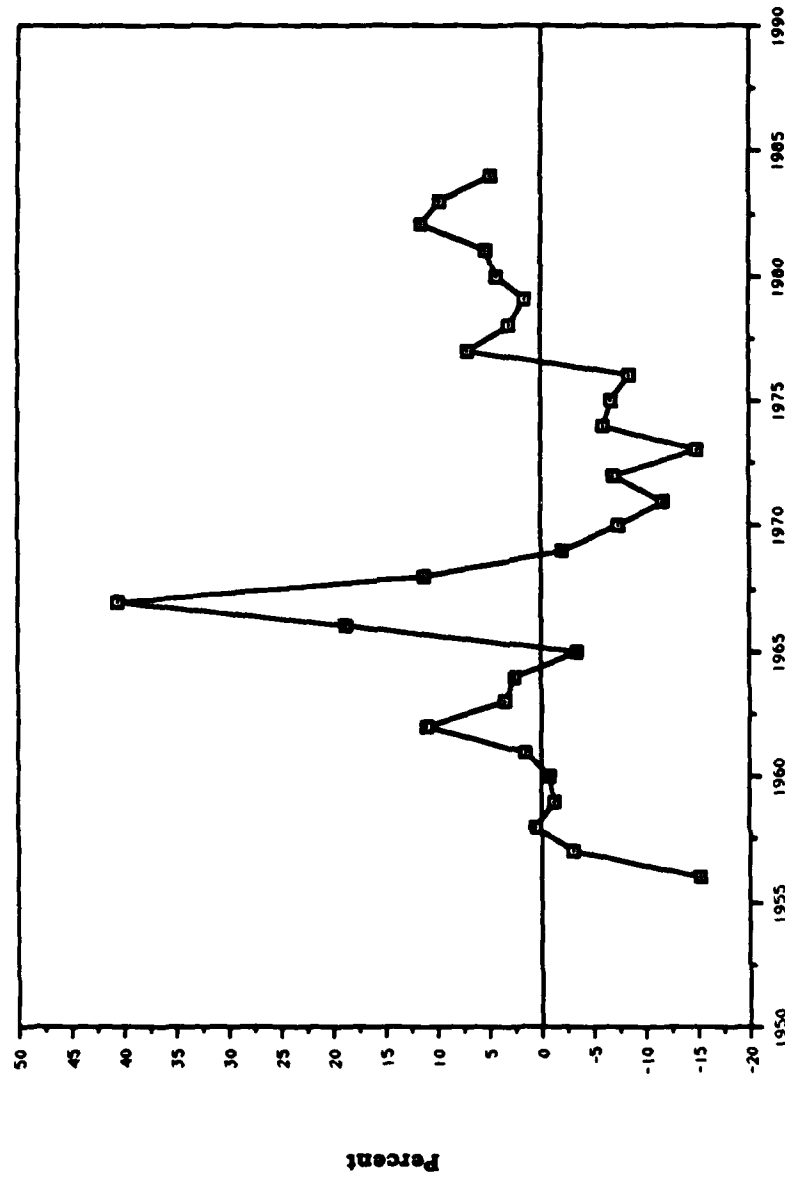
<u>FY</u>	<u>MP</u>	<u>Q&M</u>	<u>PROC</u>	<u>RDT&E</u>	<u>TOTAL</u>
1972	39.8	33.6	18.2	8.3	21,350
1980	36.6	36.6	17.9	8.9	16,986
1979	38.2	36.0	16.8	9.0	16,300
1966	37.8	32.7	19.3	10.2	18,039
1970	39.2	31.9	21.9	7.0	25,985
1957	43.3	33.3	18.5	5.0	13,358
1965	41.6	31.0	15.6	11.9	15,193
1956	45.7	31.2	18.3	4.8	13,777
1971	40.7	32.4	19.8	7.1	22,924
MEAN	40.3	33.2	18.5	8.0	18,212
MED	39.8	32.7	18.3	8.3	16,986

percent, PROC 5.38 percent, and RDT&E 4.6 percent. The aggregate picture is slightly deceiving, covering the more lively behavior displayed by the individual categories. Examples of this lively behavior include a 41.6 percent decrease in procurement in 1956 relative to 1955, and an 82.9 percent increase in PROC in 1977 from 1976.

Figure 3.6 perhaps portrays a better visual image of this percent change concept. The endpoints of the graph go from a start of -15.3 percent to an end of +4.7 percent. There are years in the middle that represent anomalies due to the size of the increase or decrease. An example of this is the 40.5 percent growth from 1966 to 1967, due once again, in part, to supplemental outlays for the conflict in Southeast Asia.

TABLE 3.5
PERCENT CHANGE FROM PREVIOUS FISCAL YEAR
 (Constant Dollars)

<u>FY</u>	<u>DOA</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1956	-15.3	-9.7	-1.0	-41.6	6.1
1957	-3.0	-8.2	3.4	-2.2	1.7
1958	.4	-1.4	4.8	-5.1	7.6
1959	-1.3	-6.6	1.3	2.7	10.7
1960	-.7	-0.6	-4.5	-2.9	28.6
1961	1.6	-2.8	3.9	-14.8	51.5
1962	10.9	5.0	13.3	16.0	17.1
1963	3.5	-3.4	-10.1	54.9	-1.8
1964	2.6	9.8	4.9	-11.1	2.9
1965	-3.5	10.4	-6.0	-25.4	-1.7
1966	18.7	8.1	25.5	46.7	1.8
1967	40.5	28.9	51.5	59.6	12.3
1968	11.2	10.4	7.6	27.4	-16.0
1969	-2.1	3.5	-3.7	-0.4	0.9
1970	-7.6	1.3	-10.5	-19.2	3.9
1971	-11.8	-8.5	-10.4	-20.3	-10.3
1972	-6.9	-8.9	-3.2	-14.2	8.9
1973	-14.9	-11.1	-14.1	-32.5	1.6
1974	-5.9	-6.2	-7.9	-8.0	5.3
1975	-6.8	-3.3	-2.9	-17.4	-17.9
1976	-8.6	-2.9	-.4	-48.8	-10.9
1977	7.0	-1.6	3.3	82.9	6.1
1978	3.1	-1.3	3.9	14.5	5.4
1979	1.5	-3.6	-0.5	27.5	-5.3
1980	4.2	-0.1	5.8	11.2	12.5
1981	5.2	5.6	1.2	15.4	-0.3
1982	11.5	10.1	12.9	15.3	3.0
1983	9.8	1.6	5.9	31.4	9.1
1984	4.7	0.9	2.7	14.3	0.5
MEAN	1.66	.53	2.65	5.38	4.6



Fiscal Years

Figure 3.6
Army Total, Percent Change from Previous Fiscal Year
(Constant Dollars)

Returning to the three-period model, Table 3.6 presents the "Abundant" years as a percent increase from the previous fiscal year. Aided by a few outliers, the total and each of the four categories received a significant average increase. Procurement, not MP, had the largest average increase, with a mean of 27.1 percent. O&M was second, RDT&E was third, and MP fourth. Anderson's DOD study reflected a rank order of PROC, RDT&E, O&M, and then MP for the same years.

TABLE 3.6
PERCENT CHANGE FROM PREVIOUS
FISCAL YEAR—ABUNDANT YEARS
(Constant Dollars)

<u>FY</u>	<u>ARMY</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1982	11.5	10.1	12.9	15.3	3.0
1968	11.2	10.4	7.6	27.4	-16.0
1963	3.5	-3.4	-10.1	54.9	-1.8
1983	9.8	1.6	5.9	31.4	9.1
1967	40.5	28.9	51.5	59.6	12.3
1960	-0.7	-0.6	-4.5	-2.9	28.6
1984	4.7	0.9	2.7	14.3	0.5
1977	7.0	-1.6	3.3	82.9	6.1
1964	2.6	9.8	4.9	-11.1	2.9
1969	-2.1	3.5	-3.7	-0.4	0.9
MEAN	8.2	6.0	7.1	27.1	4.6
MED	5.85	2.55	4.1	21.35	2.95

Table 3.7 reflects the "Middle" years as a percent change from the previous year. The Army average for these years was a 1.6 percent decrease. RDT&E fared the best with an average increase of 7 percent. O&M was second, MP was third, and Procurement experienced a noteworthy average decrease of 7.8 percent. Anderson's DOD data showed a rank order of RDT&E, O&M, MP, and then PROC for the "Middle" years.

TABLE 3.7
PERCENT CHANGE FROM PREVIOUS
FISCAL YEAR—MIDDLE YEARS
(Constant Dollars)

<u>FY</u>	<u>ARMY</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1981	5.2	5.6	1.2	15.4	-0.3
1958	.4	-1.4	4.8	-5.1	7.6
1962	10.9	5.0	13.3	16.0	17.1
1976	-8.6	-2.9	-0.4	-48.8	-10.9
1959	-1.3	-6.6	1.3	2.7	10.7
1978	3.1	-1.3	3.9	14.5	5.4
1975	-6.8	-3.3	-2.9	-17.4	-17.9
1973	-14.9	-11.1	-14.1	-32.5	1.6
1961	1.6	-2.8	3.9	-14.8	51.5
1974	-5.9	-6.2	-7.9	-8.0	5.3
MEAN	-1.6	-2.5	.3	-7.8	7.0
MED	-0.45	-2.85	1.25	-6.55	5.35

Table 3.8 covers the "Lean" years for the percent change analysis. The DOA total mean was a 2.63 percent annual cut. RDT&E continued its growth trend with a mean increase of 2.61 percent. O&M again was second, followed by MP. Procurement was the biggest

loser for the "Lean" years. The "Lean" years for DOD showed a rank order of MP, O&M, RDT&E, and PROC. All four categories had a mean loss in the "Lean" years.

TABLE 3.8
PERCENT CHANGE FROM PREVIOUS
FISCAL YEAR—LEAN YEARS
(Constant Dollars)

<u>FY</u>	<u>ARMY</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1972	-6.9	-8.9	-3.2	-14.2	8.9
1980	4.2	-0.1	5.8	11.2	12.5
1979	1.5	-3.6	-0.5	27.5	-5.3
1966	18.7	8.1	25.5	46.7	1.8
1970	-7.6	1.3	-10.5	-19.2	3.9
1957	-3.0	-8.2	3.4	-5.1	7.6
1965	-3.5	10.4	-6.0	-25.4	-1.7
1956	-15.3	-9.7	-1.0	-41.6	6.1
1971	-11.8	-8.5	-10.4	-20.3	-10.3
MEAN	-2.63	-2.13	0.34	-4.49	2.61
MED	-3.5	-3.6	1.0	-14.2	3.9

Combining the three periods shows us that PROC experienced the greatest variability, which appears to be related to the availability of funds. Although the lowest in the "Abundant" years, RDT&E fared the relative best in the other two periods, and was the only category that had consistent significant growth. RDT&E's consistency may be related to the fact that it only amounts to a small amount of the DOA total, and might therefore be less likely to experience drastic cuts or increases.

O&M maintained positive average growth for all three periods, ranking second in each. MP was third in all three periods. In two of the periods, MP experienced average decreases, which would seem unusual for this manpower-intensive organization.

C. SUMMARY OF RESULTS

In accordance with the Anderson format, Tables 3.9 and 3.10 depict the relative rank of the four spending categories as a percent increase from the previous fiscal year for each of the three periods.

TABLE 3.9

RELATIVE RANKINGS OF OUTLAY CATEGORIES, DOA (Percent Change from Previous Year)

AVAILABILITY <u>OF FUNDS</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
"ABUNDANT"	3	2	1	4
"MIDDLE"	3	2	4	1
"LEAN"	3	2	4	1

TABLE 3.10

RELATIVE RANKINGS OF APPROPRIATION CATEGORIES, DOD (Percent Change from Previous Year)

AVAILABILITY <u>OF FUNDS</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
"ABUNDANT"	4	3	1	2
"MIDDLE"	3	2	4	1
"LEAN"	2	3	4	1

Table 3.9 presents DOA data, while Table 3.10 is an extract from Anderson's DOD data. It must be noted that Anderson's data is derived from budget year estimates of outlays, whereas the DOAF data represents actual outlays, but this is not a significant difference.

The correlation of the two tables is not very good. Army Procurement is the only category that follows the DOD rankings exactly. RDT&E matches in two of the periods, but MP and O&M only once.

The trend that is evident is that DOA places consistent emphasis on the areas of Military Personnel and Operations and Maintenance, regardless of the availability of DOD funds. This consistency may be related to the fact that MP and O&M are largely programmed and spent in a single budget year, with small unexpended balances or budget authority carried over to succeeding fiscal years. Conversely, Procurement and RDT&E are multi-year ventures, often with long lead time. In essence, these categories are somewhat removed from the present eye of the budgeter, and fluctuations in these categories may be easier to swallow. MP and O&M exist in the present, and as such would have quicker reactions to budget cuts and increases.

IV. DATA BASE AND RESULTS.

DEPARTMENT OF THE AIR FORCE

A. SOURCES AND EXPLANATIONS

This chapter examines Air Force data to determine whether spending trends exist as found in DOD. The primary sources of budget data remain the same: The Budget of the United States Government for fiscal years 1955 through 1986 and The Economic Report of the President for 1985 [Refs. 4, 5]. To facilitate comparison to other military departments, only the four major appropriation categories of the Department of the Air Force will be discussed.

The Military Personnel (MP) category includes all active duty and reserve personnel under the cognizance of DOAF budget funds. The Operations and Maintenance (O&M) covers the costs of operating and maintaining equipment used in direct line or support functions of DOAF missions.

The Procurement (PROC) category refers to the cost of acquiring aircraft, missiles, and other equipment used by the DOAF. Research, Development, Testing, and Evaluation (RDT&E) describes outlays for the process of design and testing of equipment. These latter two categories are usually programmed as multi-year endeavors, although only single-year budgets will be discussed.

Appendices F, G, and H present the actual outlays for the years considered, the budget year estimates, and the differences between actuals and estimates. The differences highlighted in Appendix H

reflect the different approach of this thesis as opposed to the DON analysis completed by Benson, in which she used budget year estimates as the basis for discussion. The DOAF analysis of this chapter will be limited to actual outlays for each year.

B. RESULTS

The aggregate DOAF picture shows that outlays rose from \$15.3 billion in 1955 to \$64.528 billion in 1984 (constant dollars). This breaks down to an average annual increase of \$1.697 billion. The conversion of these figures to 1972 constant dollars squeezes the range from \$25.15 billion in 1955 to \$28.887 billion in 1984. This modified table reflects an average annual increase of only \$129 million.

1. Distribution Behavior

Figure 4.1 graphically depicts Air Force budget outlay behavior for the period of the study. The overall picture shows that there was a total increase over the 30 years. Specific year-to-year review shows dramatic increases and decreases at times, with the greatest change as a decrease during the declining years of the Vietnam conflict.

Figure 4.2 shows the breakdown by category of Air Force spending trends. Three of the four categories show a fairly flat progression, while Procurement's trend was fairly erratic. Overall, the relative rankings of the four categories stay the same, with only Procurement crossing boundaries in several periods.

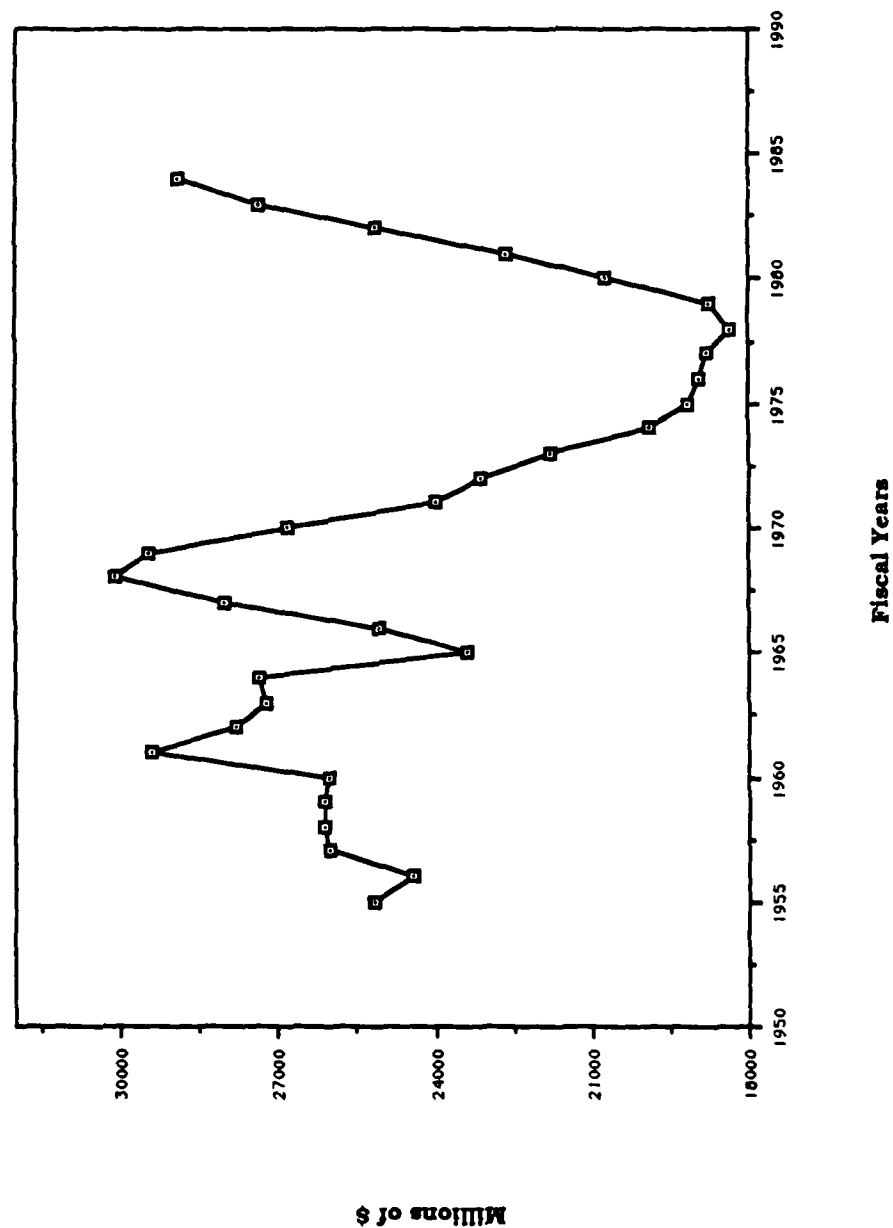


Figure 4.1
Air Force Total Outlays in Constant 1972 Dollars (in Millions)

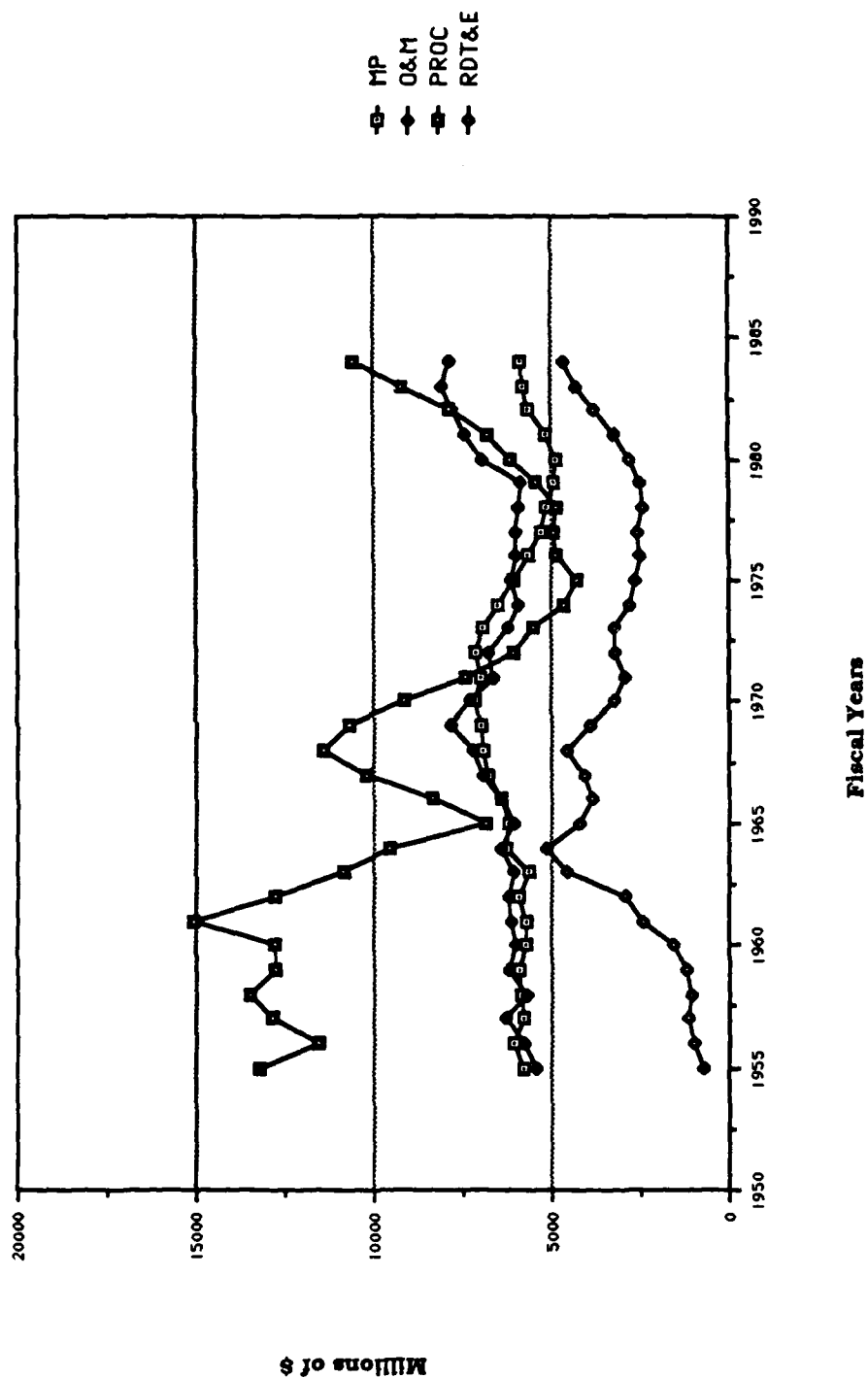


Figure 4.2
Air Force Outlays in Constant 1972 Dollars (in Millions)

2. Availability of Funds

This chapter again follows the Anderson format and incorporates some aspects of Benson's thesis. Brief comparisons to Army and Navy will be discussed in Chapter V. Table 4.1 presents DOAF categories as a percent of the DOAF sum.

Table 4.2 presents constant dollar figures for the "Abundant" years in terms of percent of total dollars spent on each category. The sequence of years in the table follows a more to less progression. Procurement had the highest average for these years. Operations and Maintenance was second. Since the Air Force purchases and maintains large numbers of expensive equipage such as aircraft, it seems logical that these two categories would receive the most attention. Military Personnel was third in rank. Despite being fourth, RDT&E received a significant part of the total. Figure 4.3 presents this relationship.

Table 4.3 and Figure 4.4 present the breakdown, by category, of the "Middle" years. Procurement was the lead category on the average. Procurement, however, took a large decrease in the middle portion of the pattern and finished the period second to O&M. O&M on the average was second for the period, with MP third and RDT&E fourth.

The "Lean" years for the Air Force are presented in Table 4.4 and Figure 4.5. Like the preceding two periods, Procurement again received the highest percentage of the total. The pattern is

TABLE 4.1
CATEGORIES AS A PERCENT OF AIR FORCE
MAJOR OUTLAYS TOTAL
(Current Dollars)

<u>FY</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	15,301	23.0	21.6	52.5	2.9
1956	15,340	24.8	23.8	47.3	4.1
1957	16,901	22.2	24.2	49.3	4.3
1958	17,266	22.4	21.9	51.7	4.0
1959	17,665	22.8	23.8	48.9	4.6
1960	17,876	21.9	23.0	49.0	6.1
1961	20,407	19.5	21.0	51.4	8.2
1962	19,651	21.2	22.4	46.0	10.4
1963	19,493	20.8	22.3	40.0	16.9
1964	19,927	22.8	23.6	34.9	18.7
1965	17,374	26.5	26.0	29.4	18.1
1966	19,228	25.7	25.6	33.4	15.3
1967	22,135	24.1	24.7	36.6	14.6
1968	24,870	23.0	23.9	37.8	15.3
1969	25,587	23.8	26.6	36.3	13.2
1970	24,508	26.7	27.2	34.1	12.0
1971	23,032	29.1	27.7	31.0	12.2
1972	23,142	30.8	29.2	26.1	13.9
1973	23,059	31.9	28.4	25.1	14.6
1974	22,891	32.7	29.7	23.5	14.2
1975	24,056	31.7	32.2	22.4	13.8
1976	25,074	29.7	31.5	25.5	13.3
1977	26,352	28.2	31.8	26.3	13.7
1978	27,574	27.9	32.3	26.6	13.2
1979	30,631	26.4	31.2	29.1	13.3
1980	37,001	23.6	33.4	29.5	13.6
1981	44,239	22.9	32.9	29.9	14.3
1982	52,088	22.6	31.0	31.4	15.0
1983	58,931	21.3	29.4	33.7	15.6
1984	64,528	20.2	27.3	36.5	16.0
MEAN		25.01	26.99	35.84	12.18

TABLE 4.2

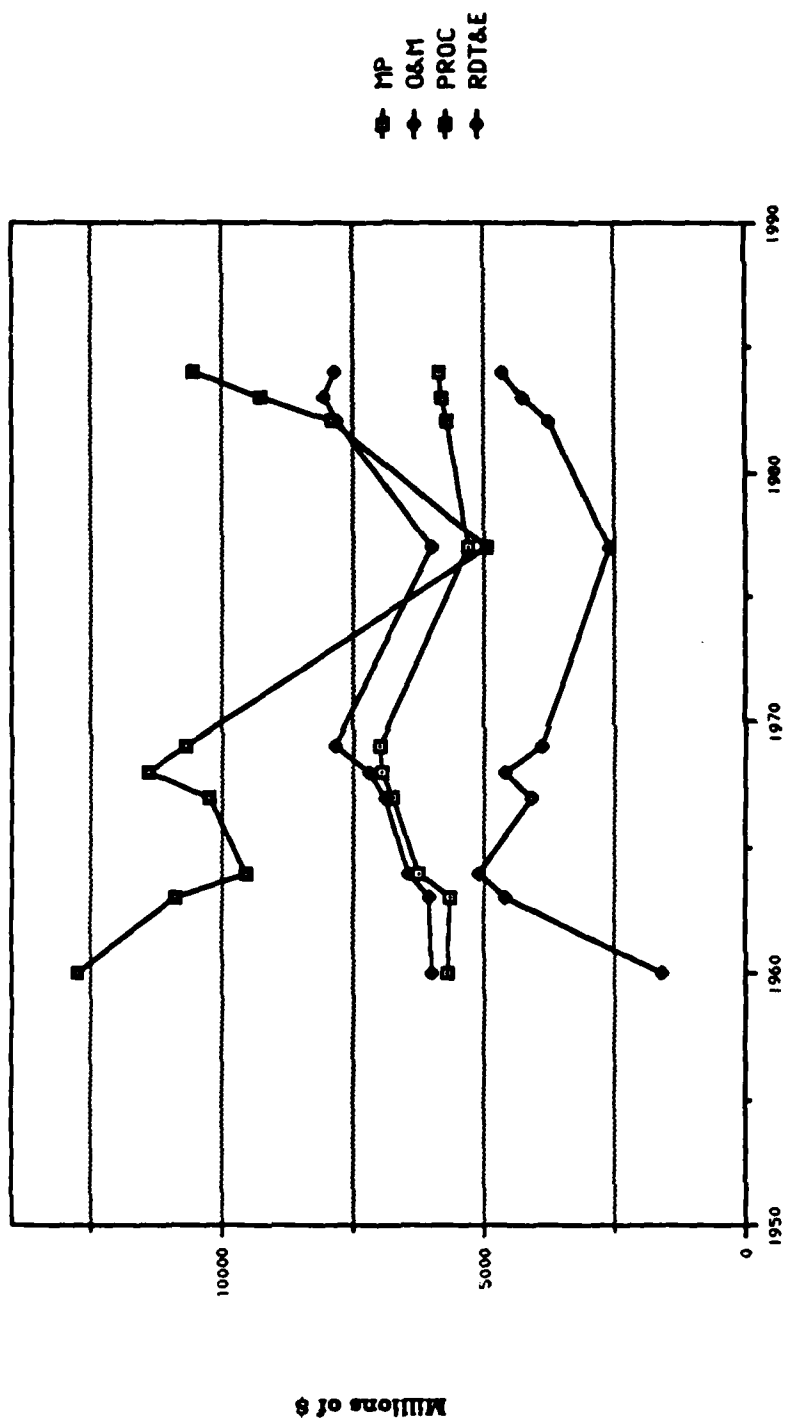
PERCENT OF DOAF TOTAL—ABUNDANT YEARS
(Constant Dollars)

<u>FY</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>	<u>TOTAL</u>
1982	22.6	31.0	31.4	15.0	25,117
1968	23.0	23.9	37.8	15.3	30,131
1963	20.8	22.3	40.0	16.9	27,198
1983	21.3	29.4	33.7	15.6	27,367
1967	24.1	24.7	36.6	14.6	27,997
1960	21.9	23.0	49.0	6.1	26,021
1984	20.2	27.3	36.5	16.0	28,887
1977	28.2	31.8	26.3	13.7	18,816
1964	22.8	23.6	34.9	18.7	27,383
1969	23.8	26.6	36.3	13.2	29,482
MEAN	22.9	26.4	36.3	14.5	26,840
MED	22.7	25.7	36.45	15.15	27,375

TABLE 4.3

PERCENT OF DOAF TOTAL—MIDDLE YEARS
(Constant Dollars)

<u>FY</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>	<u>TOTAL</u>
1981	22.9	32.9	29.9	14.5	22,617
1958	22.4	21.9	51.7	4.0	26,145
1962	21.2	22.4	46.0	10.4	27,830
1976	29.7	31.5	25.5	13.3	18,947
1959	22.8	23.8	48.9	4.6	26,132
1978	27.9	32.3	26.6	13.2	18,331
1975	31.7	32.2	22.4	13.8	19,124
1973	31.9	28.4	25.1	14.6	21,806
1961	19.5	21.0	51.4	8.2	29,408
1974	32.7	29.7	23.5	14.2	19,892
MEAN	26.3	27.6	35.1	11.1	23,023
MED	25.4	29.1	28.3	13.25	22,212



Fiscal Years

Figure 4.3

DOAF Outlays, Abundant Ten Years (Constant 1972 Dollars)

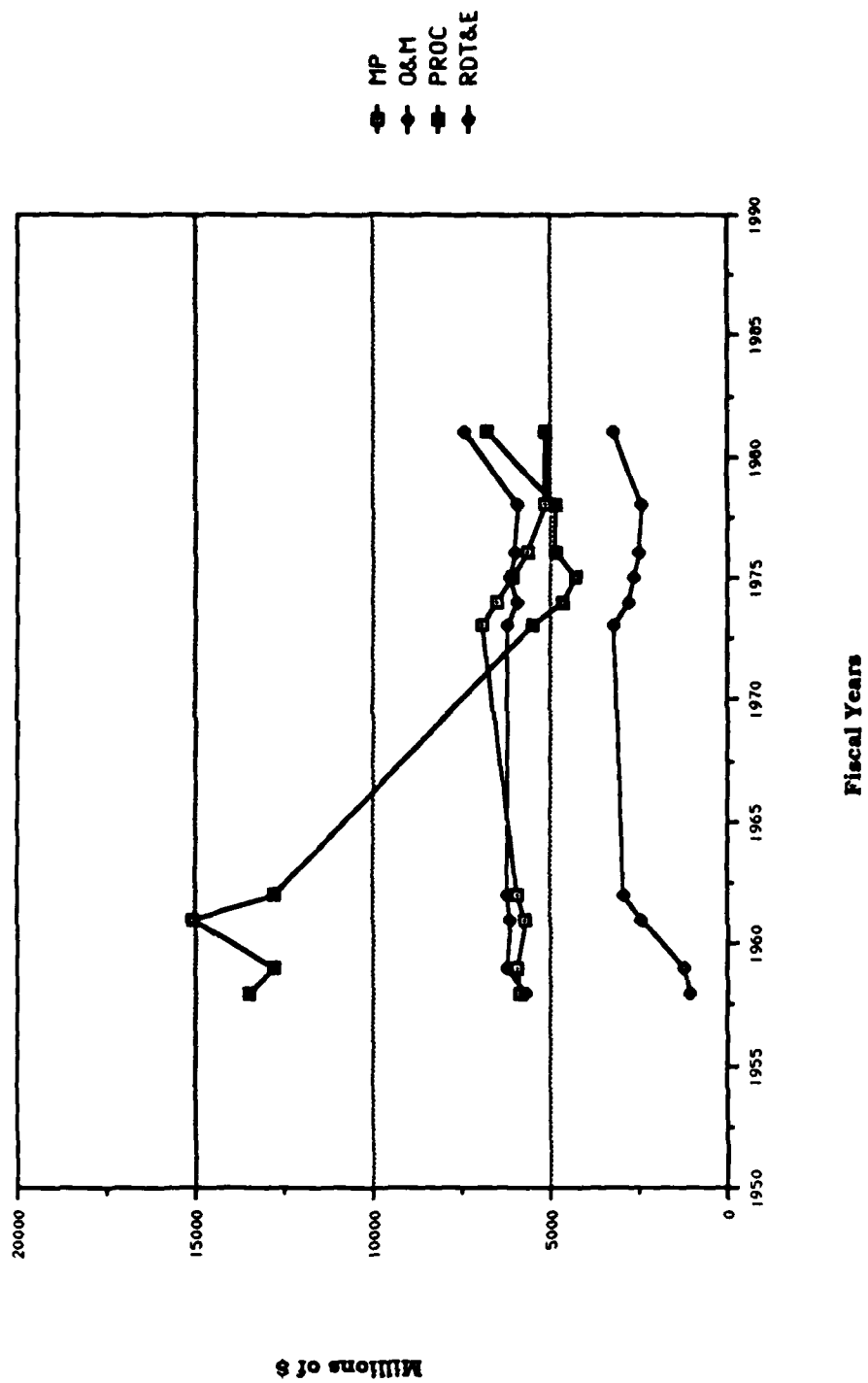


Figure 4.4
DOAF Outlays, Middle Ten Years (Constant 1972 Dollars)

TABLE 4.4

PERCENT OF DOAF TOTAL—LEAN YEARS
(Constant Dollars)

<u>FY</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>	<u>TOTAL</u>
1972	30.8	29.2	26.1	13.9	23,142
1980	23.6	33.4	29.5	13.6	20,738
1979	26.4	31.2	29.1	13.3	18,744
1966	25.7	25.7	33.4	15.3	25,049
1970	26.7	27.2	34.1	12.0	26,799
1957	22.2	24.2	49.3	4.3	26,030
1965	26.5	26.0	29.4	18.1	23,365
1956	24.8	23.8	47.3	4.1	24,431
1971	29.1	27.7	31.0	12.2	23,989
MEAN	26.2	27.6	34.4	11.9	23,587
MED	26.4	27.2	31.0	13.3	23,989

completed with O&M second, MP third, and RDT&E fourth. Figure 4.5 shows an interesting pattern in that Procurement started first, finished second, and was as low as third in 1972. Similarly, O&M and MP displayed relative ranking changes for the years represented.

3. Growth Rates

Table 4.5 presents DOAF outlays as a percent change from the previous fiscal year for total and categorical spending. Total Air Force spending rose at an average of less than one percent. The breakdown by category shows that RDT&E experienced consistent growth by enjoying an eight-percent average annual increase. O&M was second, with an average increase of 1.47 percent, while MP and Procurement had an average growth rate of .3 percent.

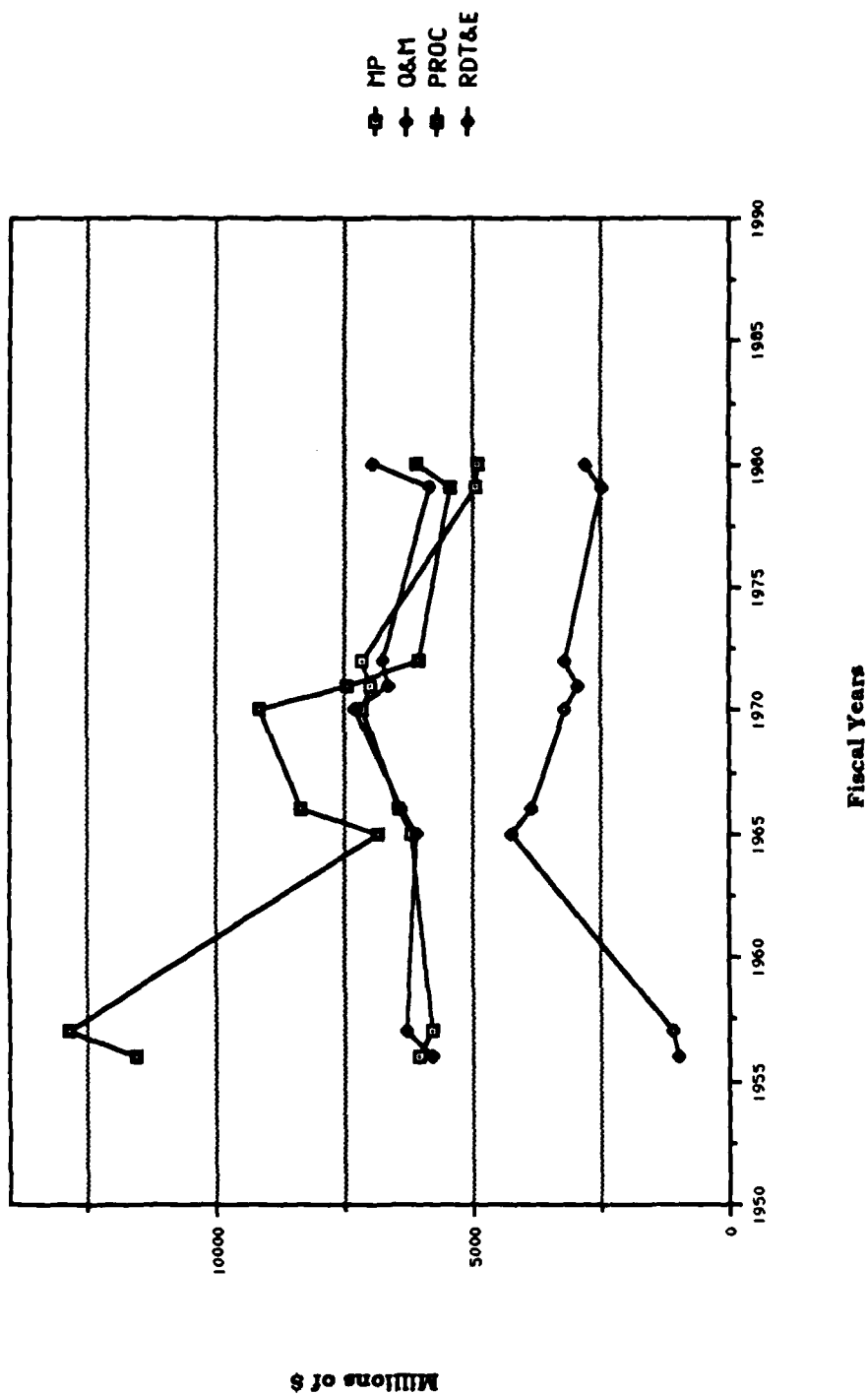


Figure 4.5
DOAF Outlays, Lean Nine Years (Constant 1972 Dollars)

TABLE 4.5
PERCENT CHANGE FROM PREVIOUS FISCAL YEAR
 (Constant Dollars)

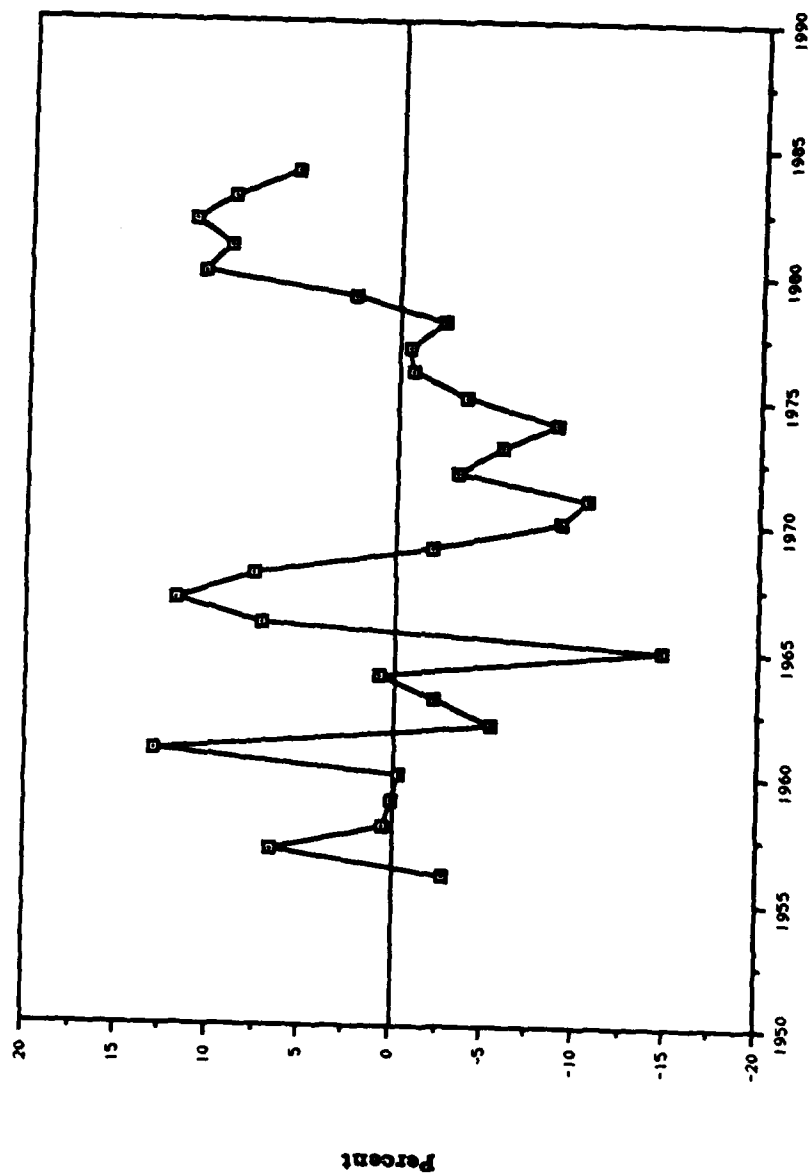
<u>FY</u>	<u>DOAF</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1956	-2.9	4.7	7.1	-12.4	35.2
1957	6.5	-4.7	8.2	11.1	13.2
1958	0.4	1.2	-8.9	5.3	-6.4
1959	0.0	1.7	8.3	-5.5	14.6
1960	-0.4	-4.4	-3.4	-0.1	31.8
1961	13.0	0.9	2.9	18.4	51.5
1962	-5.4	2.8	1.2	-15.2	20.6
1963	-2.3	-4.2	-2.9	-14.9	58.8
1964	0.7	10.6	6.2	-12.2	11.1
1965	-14.7	-1.0	-5.7	-28.3	-17.3
1966	7.2	4.0	5.4	21.8	-9.2
1967	11.8	4.9	7.8	22.6	6.3
1968	7.6	2.6	4.1	11.3	12.7
1969	-2.2	1.4	9.0	-6.1	-15.3
1970	-9.1	2.0	-7.2	-14.6	-17.7
1971	-10.5	-2.5	-8.7	-18.7	-8.9
1972	-3.5	2.2	1.5	-18.6	9.5
1973	-5.8	-2.6	-8.3	-9.4	-0.8
1974	-8.8	-6.5	-4.5	-14.9	-11.5
1975	-3.9	-6.9	4.1	-8.1	-6.6
1976	-0.9	-7.2	-2.9	12.7	-4.1
1977	-0.7	-5.7	0.3	2.3	2.4
1978	-2.6	-3.4	-1.1	-1.3	-6.7
1979	2.3	-3.4	-1.3	11.8	3.5
1980	10.6	-1.3	18.5	12.1	12.7
1981	9.1	5.8	7.3	10.8	15.3
1982	11.1	9.9	4.8	16.5	15.9
1983	9.0	2.5	3.3	17.1	13.5
1984	5.6	4.5	-2.2	14.0	8.7
MEAN	0.73	0.27	1.47	0.26	8.03

Figure 4.6 is a better indicator of growth trends of the Air Force total. The endpoints of the graph go from a -2.9 percent in 1956 to 5.6 percent in 1984. Extreme points range from +11.8 percent change in 1967 to a -14.7 percent change felt in 1965.

Table 4.6 presents the "Abundant" years in terms of growth rates. All four categories had a positive growth average. RDT&E led the group with a significant average increase of 14.6 percent. Procurement fared well, averaging over 5 percent. O&M and MP had growth rates of 2.7 and 2.2 percent, respectively. DOD, according to Anderson, experienced a rank order of PROC, RDT&E, O&M, and then MP during the "Abundant" period.

Table 4.7 presents the "Middle" years as a percent change from the previous year. The Air Force average for this period was -0.5 percent. RDT&E was the only category to experience positive growth, with a rate of 6.6 percent. O&M had a rate of -0.2 percent, Procurement -0.7 percent, and MP -1.42 percent on the average. Anderson's study reflects a DOD rank order of RDT&E, O&M, MP, and then PROC during the "Middle" years.

The "Lean" years' growth rates are presented in Table 4.8. The Air Force average growth was poor, with a -1.41 percent change. RDT&E managed the best positive trend, with an average increase of 2.1 percent. O&M had a positive average also, but only at a rate of 1.8 percent, while MP broke even for the period in terms of percent growth. Procurement experienced a negative growth of 3.6 percent.



Fiscal Years

Figure 4.6

Air Force Total, Percent Change from Previous Fiscal Year
(Constant Dollars)

TABLE 4.6

**PERCENT CHANGE FROM PREVIOUS
FISCAL YEAR—ABUNDANT YEARS**
(Constant Dollars)

<u>FY</u>	<u>DOAF</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1982	11.1	9.9	4.8	16.5	15.9
1968	7.6	2.6	4.1	11.3	12.7
1963	-2.3	-4.2	-2.9	-14.9	58.8
1983	9.0	2.5	3.3	17.1	13.5
1967	11.8	4.9	7.8	22.6	6.3
1960	-0.4	-4.4	-3.4	-0.1	31.8
1984	5.6	4.5	-2.2	14.0	8.7
1977	-0.7	-5.7	0.3	2.3	2.4
1964	0.7	10.6	6.2	-12.2	11.1
1969	-2.2	1.4	9.0	-6.1	-15.3
MEAN	4.02	2.21	2.7	5.05	14.59
MED	3.15	2.55	3.7	6.8	11.9

TABLE 4.7

**PERCENT CHANGE FROM PREVIOUS
FISCAL YEAR—MIDDLE YEARS**
(Constant Dollars)

<u>FY</u>	<u>DOAF</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1981	9.1	5.8	7.3	1.08	1.53
1958	0.4	1.2	-8.9	5.3	-6.4
1962	-5.4	2.8	1.2	-15.2	20.6
1976	-0.9	-7.2	-2.9	12.7	-4.1
1959	0.0	1.7	8.3	-5.5	14.6
1978	-2.6	-3.4	-1.1	-1.3	-6.7
1975	-3.9	-6.9	4.1	-8.1	-6.6
1973	-5.8	-2.6	-8.3	-9.4	-0.8
1961	13.0	0.9	2.9	18.4	51.5
1974	-8.8	-6.5	-4.5	-14.9	-11.5
MEAN	-0.49	-1.42	-0.19	-0.72	6.59
MED	-1.75	-0.85	0.05	-3.4	-2.45

TABLE 4.8
**PERCENT CHANGE FROM PREVIOUS
 FISCAL YEAR—LEAN YEARS**
 (Constant Dollars)

<u>FY</u>	<u>DOAF</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1972	-3.5	2.2	1.5	-18.6	9.5
1980	10.6	-1.3	18.5	12.1	12.7
1979	2.3	-3.4	-1.3	11.8	3.5
1966	7.2	4.0	5.4	21.8	-9.2
1970	-9.1	2.0	-7.2	-14.6	-17.7
1957	6.5	-4.7	8.2	11.1	13.2
1965	-14.7	-1.0	-5.7	-28.3	-17.3
1956	-2.9	4.7	7.1	-12.4	35.2
1971	-10.5	-2.5	-8.7	-18.7	-8.9
MEAN	-1.41	0.0	1.78	-3.58	2.1
MED	-2.9	-1.0	1.5	-12.4	3.5

DOD experienced a rank order during the "Lean" years of MP, O&M, RDT&E, and PROC, with each category suffering a loss on the average.

By taking a combined look at the three periods, we see that RDT&E showed a consistent positive growth relative to the overall availability of DOD funds. Procurement displayed the greatest average variability, while MP and O&M had subtle changes in both positive and negative directions over the years.

C. SUMMARY OF RESULTS

In accordance with the Anderson format, Tables 4.9 and 4.10 depict the relative rank of the four spending categories as a percent increase from the previous fiscal year for each of the three periods.

TABLE 4.9

RELATIVE RANKINGS OF OUTLAY CATEGORIES, DOAF
(Percent Change from Previous Year)

AVAILABILITY <u>OF FUNDS</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
ABUNDANT	4	3	2	1
MIDDLE	4	2	3	1
LEAN	3	2	4	1

TABLE 4.10

RELATIVE RANKINGS OF APPROPRIATION CATEGORIES, DOD
(Percent Change from Previous Year)

AVAILABILITY <u>OF FUNDS</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
ABUNDANT	4	3	1	2
MIDDLE	3	2	4	1
LEAN	2	3	4	1

Table 4.9 presents DOAF actual outlays, while Table 4.10 is an extract from Anderson's DOD data. It must be noted that Anderson's data is derived from budget estimates of outlays, whereas the DOAF data represents actual outlays.

The correlation of the two tables is not very good. Air Force RDT&E and O&M match in two of the periods. Procurement and MP only match in one period each. By looking at the tables horizontally, we see that each of the three periods has two categories that match.

Based on Table 4.9, it appears that Air Force RDT&E receives consistent attention regardless of the availability of funds. Each year RDT&E received an average increase from the previous fiscal year. MP and O&M were also fairly consistent in the growth areas. They both experienced declining growth rates commensurate with the availability of funds. Procurement, on the other hand, had a growth rate relative to funds availability. In abundant years Procurement was second in percent growth. In the middle years, Procurement dropped to third, and in the lean period it was last. These trends lead me to conclude that DOAF spending emphasis is consistent for RDT&E, MP, and O&M, while Procurement is a factor of the availability of funds. Since Table 4.1 shows that procurement receives the largest portion of the DOAF total, I believe it would be most open to real growth cuts in lean years.

V. COMPARISON OF THE THREE SERVICES

The three services (Army, Air Force, and Navy) distribute their funds according to the same basic categories. The four major categories that have been discussed in preceding chapters account for the bulk of outlays for DOA, DOAF, and DON. Since each service's budget is a subset of the Department of Defense total, one assumes that DOD would have a strong influence on the way the services allocate their funds.

Anderson's thesis discovered patterns in DOD categorical spending. The purpose of this chapter is to briefly compare the DOA, DOAF, and DON to determine consistency in outlay distribution among the services and as subsets of DOD.

A. DISTRIBUTION OF FUNDS

Table 5.1 presents the breakdown by percent of total for each of the major spending categories for DOA, DOAF, and DON. Procurement is the lead category for DOAF and DON, but only third in the DOA. On the other hand, MP is the top money category for the DOA, while it is only third in DOAF and DON. This information reflects the nature of the organizations themselves. As discussed in Chapter III, the Army is a manpower-intensive organization and MP would be a logical priority. The Navy and Air Force purchase and maintain large quantities of expensive equipment such as aircraft, ships, and missiles, so procurement receives the greatest attention. Similarly, while RDT&E

receives the least percentage in each of the services, it is the Army that expends the least in this area relative to the other categories. O&M was the second largest category by percent of total in each of the service departments.

TABLE 5.1

CATEGORIES AS A PERCENT OF BUDGET TOTAL
(1955-1984 Average)

<u>SERVICE</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
DOA	39.37	33.90	18.56	8.48
DOAF	25.01	26.99	35.84	12.18
DON	27.46	28.97	36.57	9.63

B. SPENDING TRENDS

One method to determine spending trends common among the services is to compare constant dollar outlays over the 30-year period of this study.

Figure 5.1 presents the total outlays for each service in constant (1972) dollars. DOAF started as the highest spender in 1955, but finished second to DON in 1984. The Army experienced the greatest variation in the late 1960s, due most likely to the build-up for the conflict in Southeast Asia. Overall, the trends for service totals are fairly identical.

Figure 5.2 depicts the spending trends in the Military Personnel category. The only variation found is the large increase in DOA MP outlays in the late 1960s. This again is attributed to the Vietnam War.

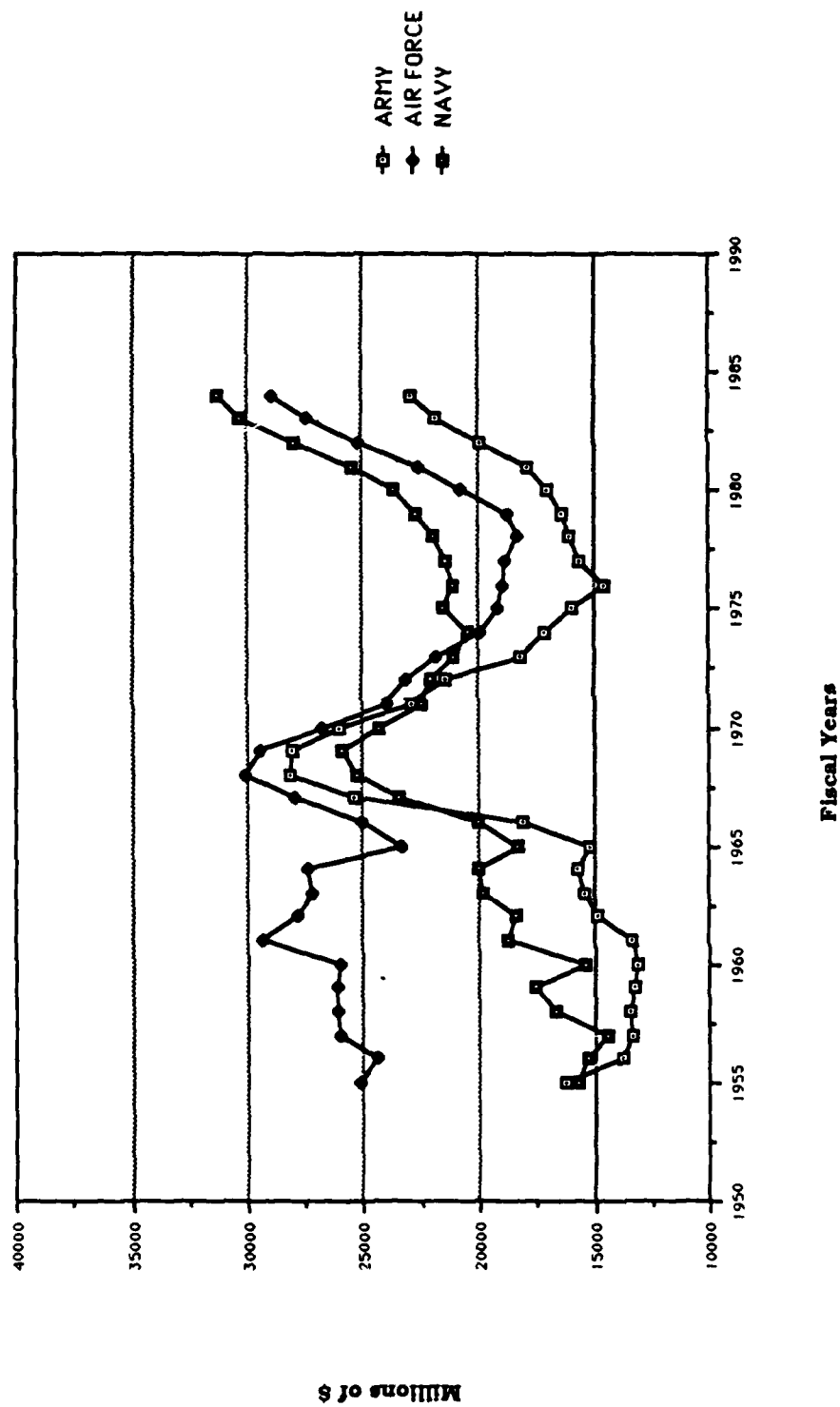


Figure 5.1
Total Outlays in Constant 1972 Dollars (in Millions)

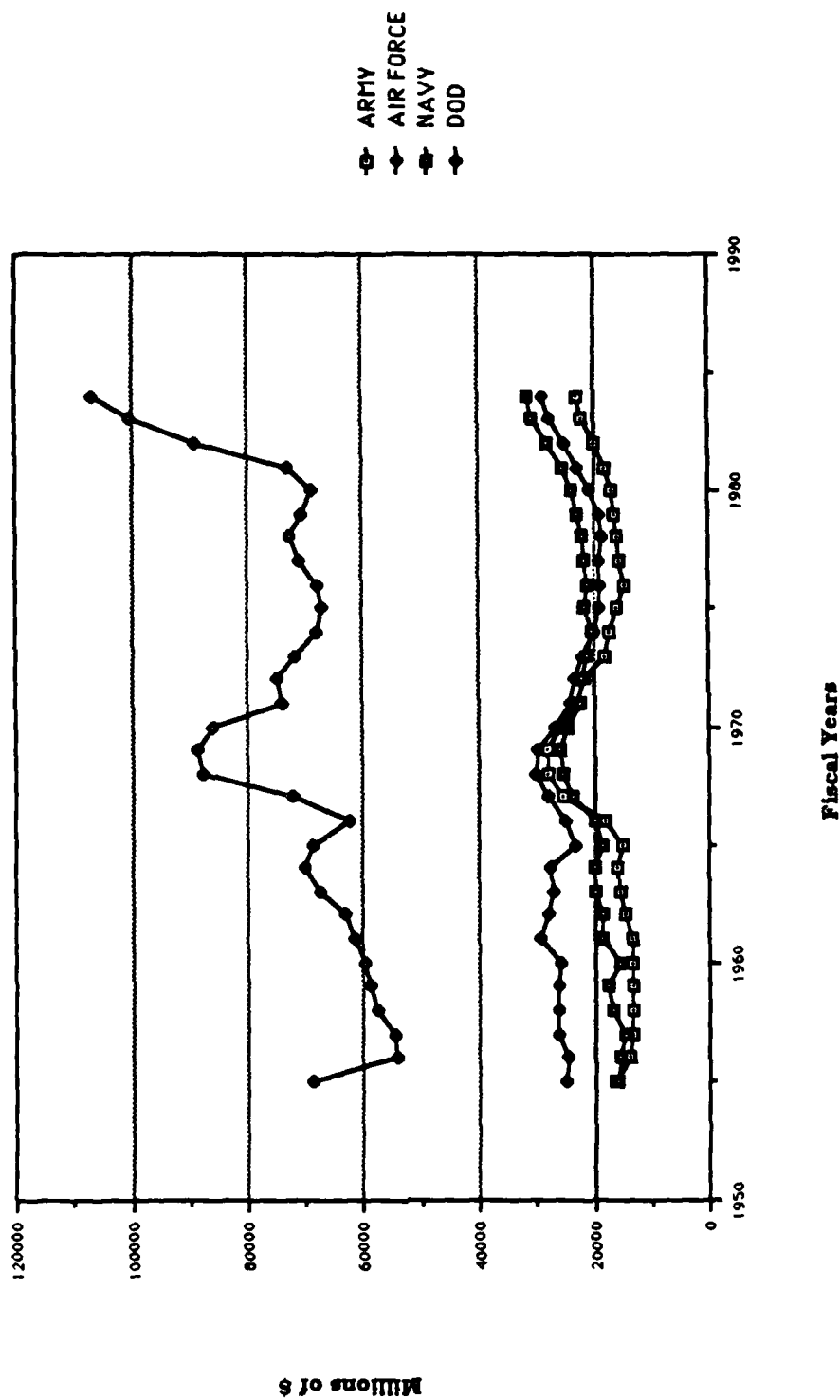


Figure 5.1a
DOD Outlays in Constant 1972 Dollars (in Millions)

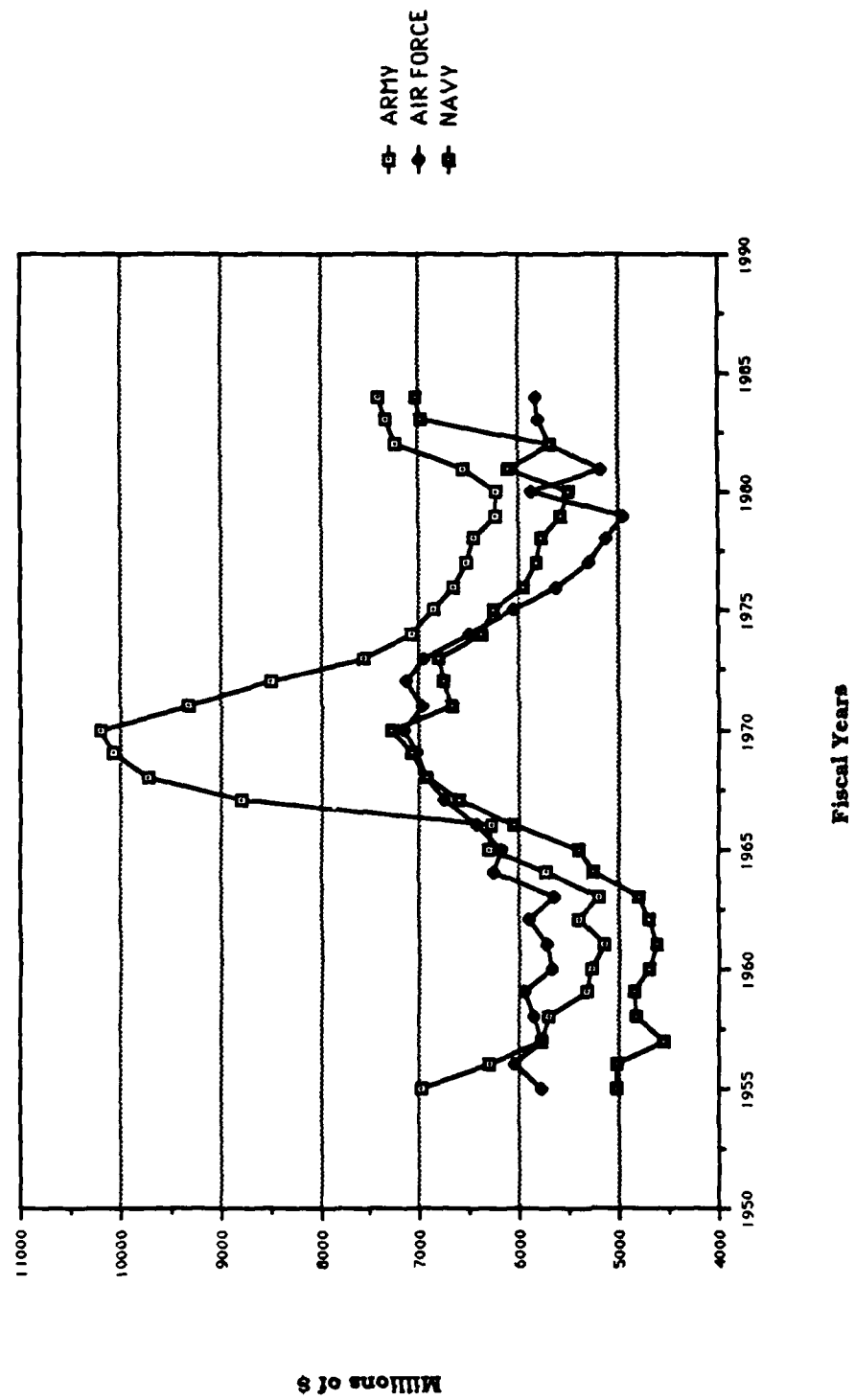


Figure 5.2
Military Personnel Outlays in Constant 1972 Dollars
(in Millions)

Operations and Maintenance is reflected graphically in Figure 5.3. A familiar pattern is shared by the services. The DOA's 1968 peak due to Vietnam and DON's recent successes born from President Reagan's priorities are the only slight anomalies found here.

Figure 5.4 presents the trends in the Procurement area. The first ten years of the graph show a large deviation among the services. After 1965, however, the three services' spending habits in the Procurement category are similar.

Figure 5.5 rounds out the spending trend analysis by presenting RDT&E figures for the 30-year period. DOA and DON show a relatively flat, consistent progression. The Air Force behavior is somewhat erratic in this category.

C. GROWTH RATES

A final method for comparing service departments' spending trends is to look at year-to-year growth rates. Anderson determined that trends exist in DOD spending according to periods defined by availability of funds. Chapters III and IV addressed the comparison to DOD for the DOA and DOAF, respectively. Certain similarities were found among the groups when considering percent change from previous fiscal years. Overall, however, the spending patterns were not identical.

Benson's thesis [Ref. 2] described a high correlation between DON and DOD using the percent change approach. Tables 5.2, 5.3, and 5.4 present DOA, DOAF, and DON figures using percent change. This analysis provides no real similarities among the services. For

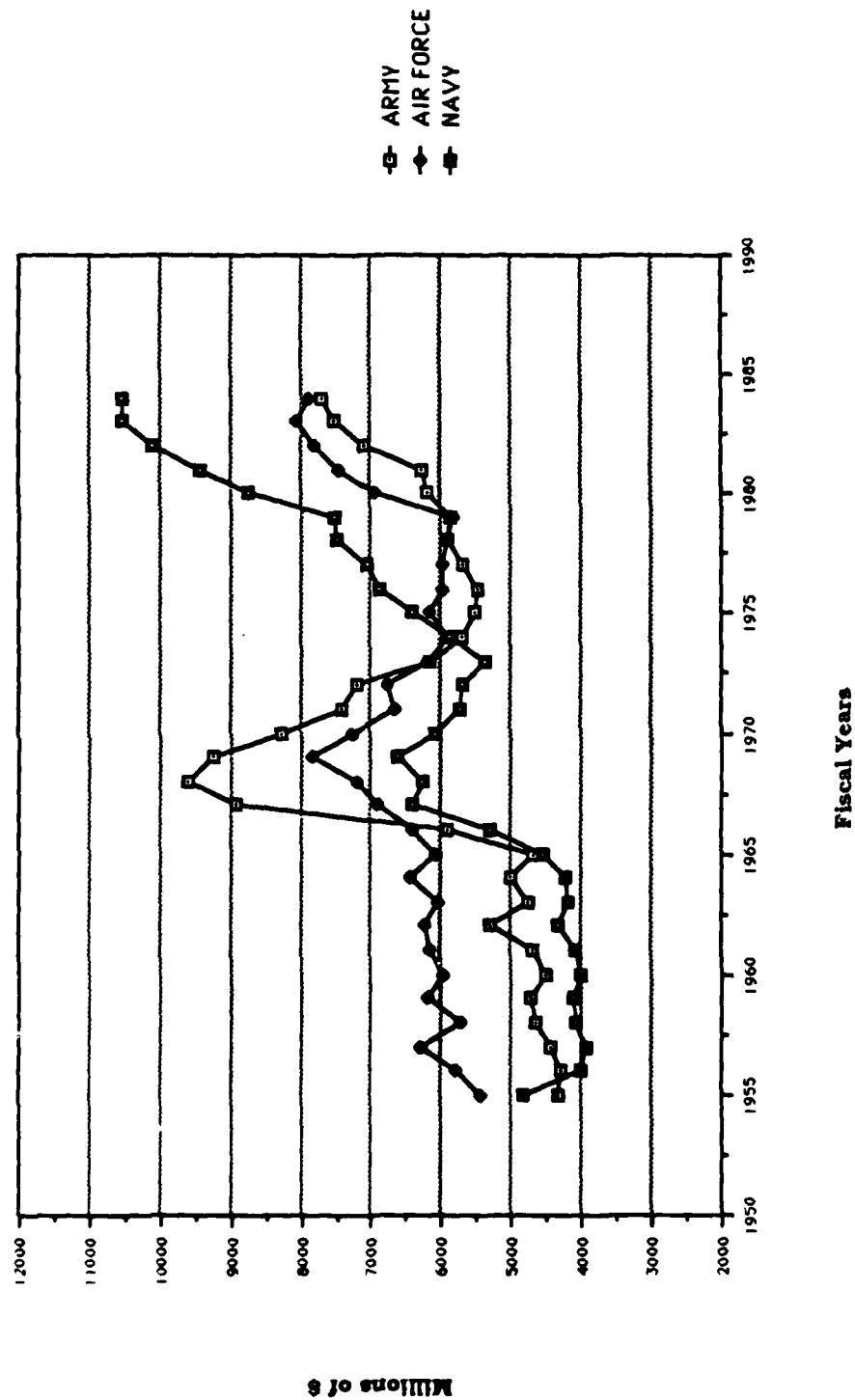


Figure 5.3
Operations and Maintenance Outlays in Constant 1972
Dollars (in Millions)

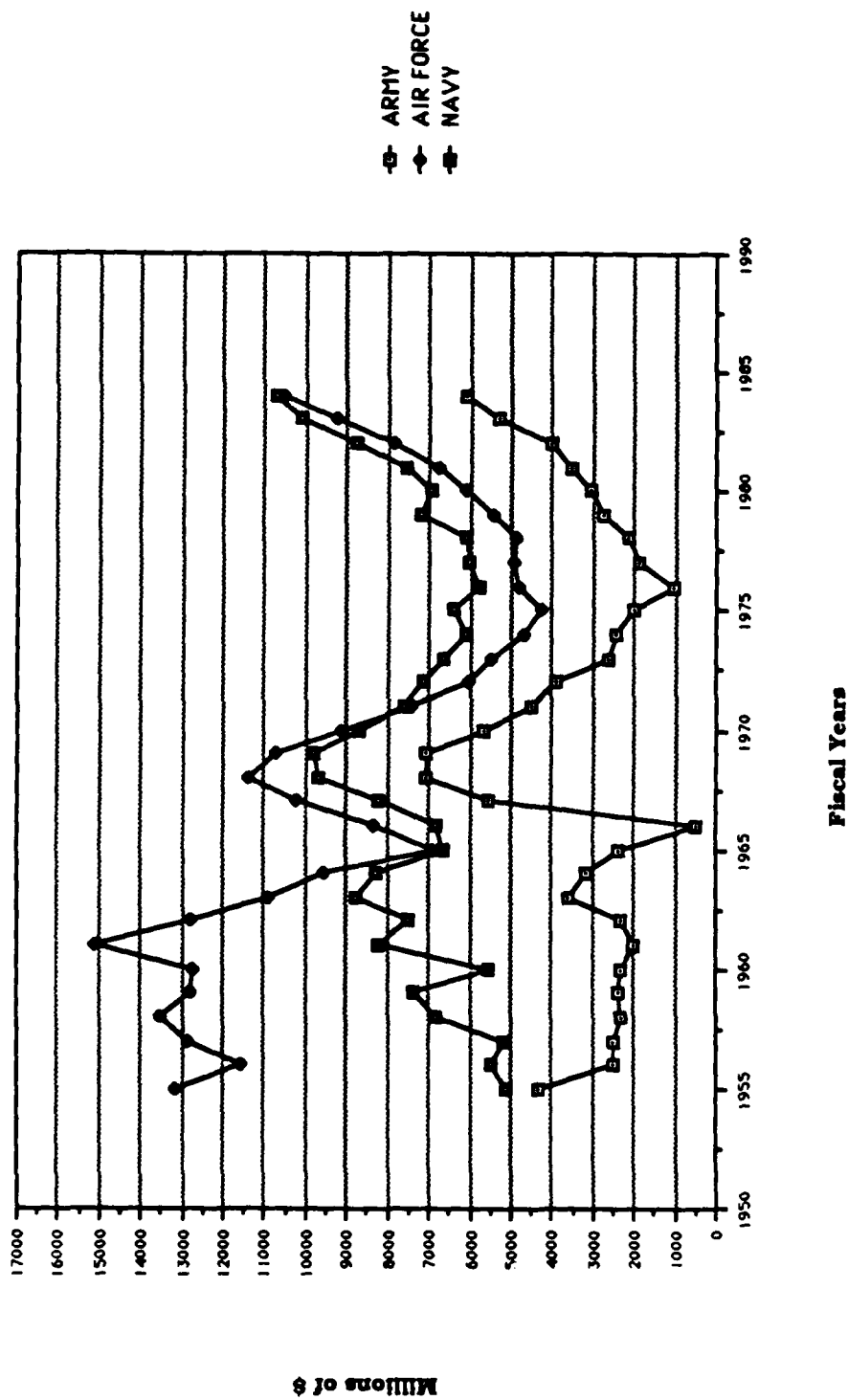


Figure 5.4
Procurement Outlays in Constant 1972 Dollars (in Millions)

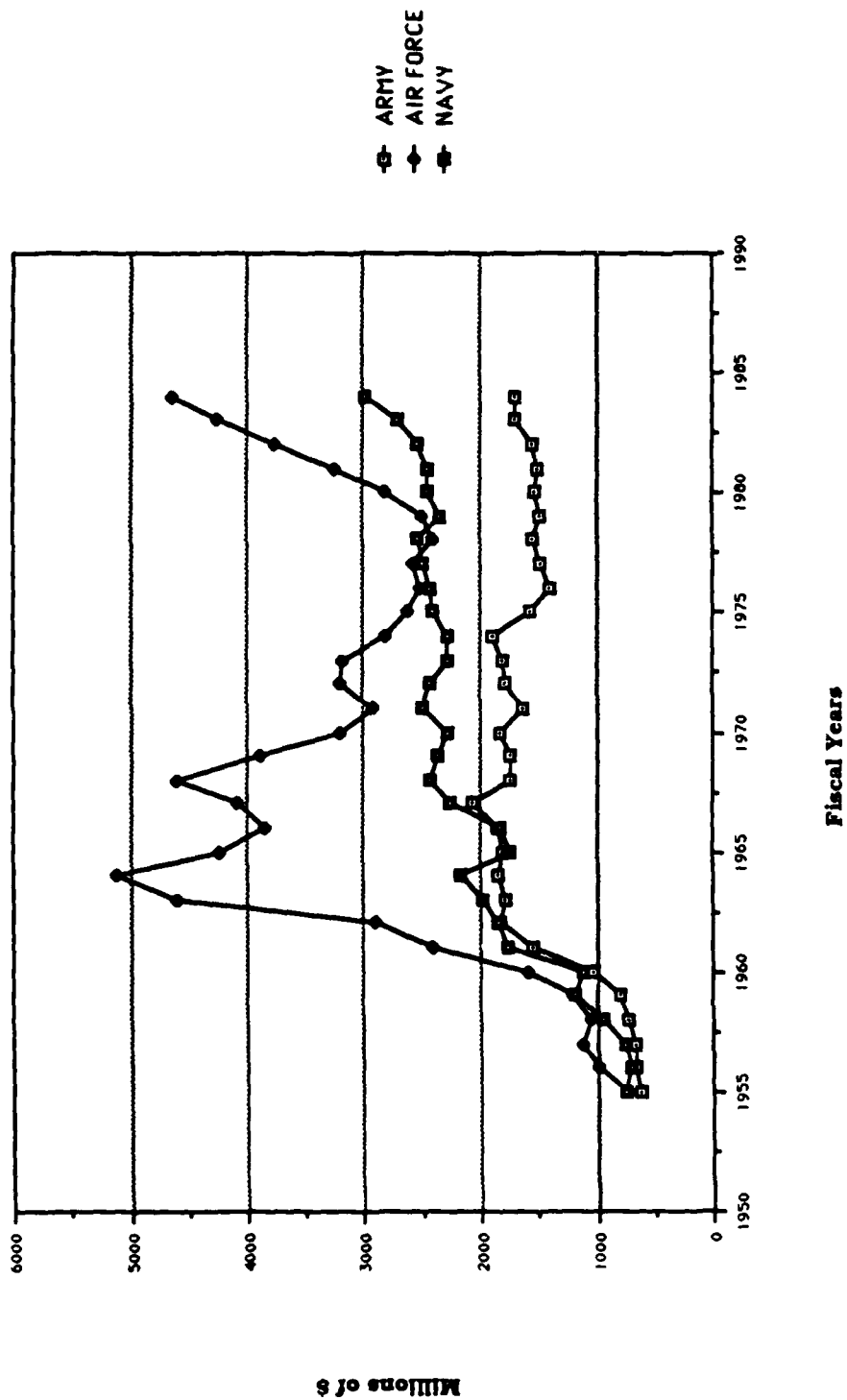


Figure 5.5
RDT&E Outlays in Constant 1972 Dollars (in Millions)

TABLE 5.2

RELATIVE RANKINGS OF OUTLAY CATEGORIES, DOA
(Percent Change from Previous Year)

AVAILABILITY <u>OF FUNDS</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
ABUNDANT	3	2	1	4
MIDDLE	3	2	4	1
LEAN	3	2	4	1

TABLE 5.3

RELATIVE RANKINGS OF OUTLAY CATEGORIES, DOAF
(Percent Change from Previous Year)

AVAILABILITY <u>OF FUNDS</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
ABUNDANT	4	3	2	1
MIDDLE	4	2	3	1
LEAN	3	2	4	1

TABLE 5.4

RELATIVE RANKINGS OF OUTLAY CATEGORIES, DON
(Percent Change from Previous Year)

AVAILABILITY <u>OF FUNDS</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
ABUNDANT	4	3	1	2
MIDDLE	3	2	4	1
LEAN	2	1	4	3

example, the Air Force consistently had the greatest percent change in the RDT&E category. For the Army, RDT&E was the category with the lowest average percent gain in "Abundant" years, but was the highest in the "Middle" and "Lean" years. The Navy treats RDT&E with no apparent consistency by having it rank second in the "Abundant" years, first in the "Middle" years, and third in the "Lean" years. The end result is that analysis in accordance with Anderson's model is inconclusive in trying to establish common trends among the services.

VI. CONCLUSION

A. BUDGET INFLUENCES

Chapters III, IV, and V have presented trends evident within and among the three services and DOD. The figures exist as fact. The reasons behind the figures involve research in an almost limitless sea of literature.

The defense budget can largely be defined as incremental. Certain exceptions exist as the result of environmental influences. For example, the year 1967 saw a large increase in Army actual outlays for procurement from the previous year. The initial estimate for procurement was \$1.9 billion. The estimate was augmented due to the Vietnam Conflict with a revised total of \$3.22 billion. The actual total for Army procurement outlays was \$4.389 billion. The existing peacetime decision-making processes, even within DOD, were too slow for the conditions of war [Ref. 16]. The difference between estimates and actual outlays highlights one of the shortcomings of Benson's thesis on DON. She based her analysis on budget estimates, and estimates alone may not be an accurate accounting of military spending.

The Vietnam war is an example of exogenous influences discussed in a 1970 RAND study [Ref. 18]. These influences are not necessarily a result of combat actions. Secret military reports, the Kennedy assassination, and the launching of the SPUTNIK satellite are examples of the "random shock" influences that can affect defense budgeting.

Personalities of key individuals in defense or the political arena through which the defense budget travels have influenced defense spending. The statutory authority of the Secretary of Defense was defined by a series of laws ending with the Department of Defense Reorganization Act of 1958. Two broad schools concerning the Secretary's role emerged from the 1958 act. The "traditional" view holds that, once the President and the Congress determine the amount to be spent on defense, the Secretary of Defense takes what is given and allocates it to the services. The opposing view sees the Secretary as an active manager who correlates national security needs to shape defense. Since there is no such thing as a "pure" military requirement, the integrating, active manager approach was pursued by such notables as Thomas Gates, Robert McNamara, and Clark Clifford [Ref. 16]. The role of the Secretary of Defense until around 1960 was as a referee for the services. Under McNamara, the Secretary's role evolved into one of personal involvement in shaping strategy and forces.

The strength of the personality of other agency heads also influences the defense budget. Budget emphasis shifts from defense to non-defense over the years. The heads of other agencies are often evaluated according to a status that is measured by the budgetary success of his or her agency [Ref. 13]. Therefore, a strong non-DOD agency had can lobby funds away from DOD.

The rivalry among the services can often hurt DOD budget efforts. If Congress observes program redundancy and interservice bickering,

then the DOD position may be weakened. Rational theorists have been somewhat preoccupied with pointing out disadvantages of interservice competition. Secretary McNamara described what he saw concerning the services:

We found that the three military departments had been establishing their requirements independently of each other. The results could be described as fairly chaotic. Army planning, for example, was based primarily on a long war of attrition. Air Force planning was based largely on a short war of nuclear bombardment. Consequently the Army was stating a requirement for stocking months if not years of combat supplies against the event of a sizeable conventional conflict. The Air Force stock requirements for such a war had to be measured in days, and not very many days at that. Either approach, consistently followed, might make some sense. The two combined could not possibly make sense. What we needed was a coordinated strategy seeking objectives actually attainable with the military resources available. [Ref. 19]

The above statement supports the claim that each service spends in accordance with the inherent nature of its own objectives.

The influences of the President as budget drafter and Congress as budget overseer are evident in every defense dollar spent. Although this relationship is often depicted as adversarial, it is still a constitutionally based process. There are times when Congress is not so critical of the President's budget proposal. For example, expediency in passing the Gulf of Tonkin Resolution gave an implicit consent to establishing an influence on Southeast Asia. The first Foreign Relations Committee investigation followed in 1966, but after intervention in Vietnam had become well established [Ref. 19]. Congress usually takes the time for a critical review of the President's budget.

In summary, the budget influences listed here are but a few of the sum of the influences affecting the defense budget. While each

specific influence can be researched individually, they are all interrelated and must be considered in a common arena.

B. SUMMARY

The analysis in this thesis basically approaches DOD spending trend comparisons from three distinct angles. Distribution of funds, spending trends, and growth rates are all valid steps in attempting to decipher the complex methodology pursued in DOD budgeting. In the final analysis, the following conclusions are derived from this discussion:

1. The three services do spend their money according to similar trends. The "Spending Trend" analysis graphically reflects enough evidence to warrant this conclusion. Despite certain anomalies, there are budget total and categorical outlay similarities.
2. The difference in distribution of funds only reflects the nature of each service organization. While each service has its own priorities, such as MP in the Army, most of the graphs (Figures 5.1-5.5) reflect the same peaks and valleys for each of the categories. By looking at the 30-year aggregate picture, the categories all appear similar. The actual dollar amounts for each of the categories differs with each service, but it seems that the "ups and downs" are fairly consistent, regardless of service.
3. Although Anderson established that trends exist in DOD spending by category based on the availability of funds, the DOD sum is the result of varied parts. By this, I mean that DOD totals are allocated by Congress to the DOD as a government agency. Each of the service departments receives its budget share via DOD and spends according to its own needs. It does not follow that DOA's, DOAF's, or DON's individual spending will directly reflect the DOD total. It must be noted that the budget process for DOD often involves line item scrutiny at the congressional level, which in turn is reflected at the service level. There is still budgetary discretion in the services at both the planning and budget execution levels. Service level historical outlay data reflects this prioritization.

Anderson's model is valid, but only for an individual organization such as DOD. The grouping of years by availability of DOD funds does not necessarily reflect the availability of funds allocated to the individual services. The fact that Benson's thesis shows a similarity between DOD and DON is probably due to coincidence, or the fact that DON is most like the DOD average.

C. AREAS FOR FURTHER STUDY

This thesis and those of Anderson, Benson, and Shockley attempt to explain and illustrate trends in defense budgeting. Chapters III, IV, and V address the facts of the service budgets. Certain trends were evident in individual services, depending on how one manipulates the data. Complete explanations concerning the reason for these trends will require further research. As a result, I propose the following areas for future study:

1. Is the defense budget submitted as an aggregate by which the individual services combine their priorities to ensure success? If this is true, then why do certain inter-service redundancies still exist, as in Research and Development?
2. How do "shocking" influences external to the U.S. force budgeters to react via expenditure priorities, especially in peacetime?
3. Do arbitrary budget ceilings exist, and if so, do the services request more than necessary to facilitate receiving the maximum after cuts?
4. Are programs that are multi-year in nature more susceptible to cuts because they are long-range and hence out of the sight of the budgeter and the public?
5. Do the services' budget requests reflect a desire to uphold national security or rather just to sustain parochial priorities that exist within each service?

APPENDIX A

ARMY OUTLAYS IN CONSTANT 1972 DOLLARS (In Millions)

<u>FY</u>	<u>GNP DEFLATOR</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	60.84	16,257	6,974	4,343	4,319	621
1956	62.79	13,777	6,297	4,298	2,523	659
1957	64.93	13,359	5,778	4,443	2,468	670
1958	66.04	13,414	5,695	4,656	2,342	721
1959	67.60	13,241	5,322	4,715	2,406	798
1960	68.70	13,155	5,290	4,503	2,336	1,026
1961	69.33	13,366	5,143	4,678	1,991	1,554
1962	70.61	14,828	5,399	5,299	2,310	1,820
1963	71.67	15,345	5,214	4,766	3,578	1,787
1964	72.77	15,741	5,723	4,998	3,181	1,839
1965	74.36	15,192	6,316	4,696	2,372	1,808
1966	76.76	18,039	6,826	5,894	3,479	1,840
1967	79.06	25,348	8,801	8,927	5,553	2,067
1968	82.54	28,137	9,716	9,607	7,077	1,737
1969	86.79	28,112	10,060	9,252	7,048	1,752
1970	91.45	25,985	10,193	8,278	5,693	1,821
1971	96.01	22,923	9,331	7,420	4,538	1,634
1972	100.00	21,351	8,498	7,180	3,894	1,779
1973	105.75	18,160	7,556	6,167	2,629	1,808
1974	115.08	17,087	7,085	5,680	2,419	1,903
1975	125.79	15,925	6,850	5,514	1,999	1,562
1976	132.34	14,557	6,650	5,492	1,023	1,392
1977	140.05	15,568	6,544	5,675	1,872	1,477
1978	150.42	16,057	6,460	5,897	2,143	1,557
1979	163.42	16,300	6,228	5,866	2,732	1,474
1980	178.42	16,985	6,221	6,208	3,039	1,517
1981	195.60	17,865	6,566	6,280	3,507	1,512
1982	207.38	19,915	7,227	7,087	4,044	1,557
1983	215.34	21,857	7,343	7,502	5,313	1,699
1984	223.38	22,891	7,409	7,701	6,074	1,707

APPENDIX B

ARMY OUTLAYS IN CURRENT YEAR DOLLARS (In Millions)

<u>FY</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	9.891	4.243	2.642	2.628	378
1956	8.651	3.954	2.699	1.584	414
1957	8.674	3.752	2.885	1.602	435
1958	8.859	3.761	3.075	1.547	476
1959	8.951	3.598	3.187	1.627	539
1960	9.037	3.634	3.093	1.605	705
1961	9.266	3.566	3.243	1.380	1,077
1962	10.470	3.812	3.742	1.631	1,285
1963	10.998	3.737	3.417	2.564	1,280
1964	11.455	4.165	3.637	2.315	1,338
1965	11.297	4.697	3.492	1.764	1,344
1966	13.846	5.239	4.524	2.671	1,412
1967	20.040	6.958	7.058	4.390	1,634
1968	23.224	8.019	7.930	5.841	1,434
1969	24.399	8.731	8.030	6.117	1,521
1970	23.762	9.321	7.570	5.206	1,665
1971	22.009	8.959	7.124	4.357	1,569
1972	21.351	8.498	7.180	3.894	1,779
1973	19.206	7.991	6.522	2.781	1,912
1974	19.663	8.153	6.536	2.784	2,190
1975	20.031	8.616	6.936	2.515	1,964
1976	19.264	8.801	7.268	1.353	1,842
1977	21.804	9.165	7.948	2.622	2,069
1978	24.153	9.717	8.870	3.224	2,342
1979	26.639	10.178	9.587	4.465	2,409
1980	30.307	11.100	11.077	5.423	2,707
1981	34.944	12.843	12.283	6.860	2,958
1982	41.302	14.988	14.698	8.386	3,230
1983	47.066	15.813	16.154	11.441	3,658
1984	51.134	16.551	17.203	13.568	3,812

APPENDIX C

ARMY ESTIMATES IN CURRENT YEAR DOLLARS (In Millions)

<u>FY</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	11,582	4,135	3,442	3,650	355
1956	9,303	3,620	2,987	2,316	380
1957	8,400	3,700	3,030	1,300	370
1958	8,813	3,695	3,308	1,400	410
1959	8,437	3,684	2,992	1,301	460
1960	8,886	3,706	3,062	1,209	909
1961	8,961	3,808	3,134	1,211	808
1962	8,599	3,642	3,196	742	1,019
1963	11,147	3,856	3,456	2,555	1,280
1964	12,162	4,095	3,395	3,202	1,470
1965	11,113	4,474	3,463	1,779	1,397
1966	11,524	4,656	3,613	1,880	1,375
1967	15,867	6,492	4,720	3,220	1,435
1968	21,856	8,040	6,856	5,370	1,590
1969	23,894	8,343	8,193	5,708	1,650
1970	24,121	8,745	7,586	6,120	1,670
1971	20,670	8,209	6,425	4,372	1,664
1972	19,634	7,432	6,741	3,683	1,778
1973	18,482	7,783	6,678	2,096	1,925
1974	18,383	7,627	6,516	2,323	1,917
1975	19,653	8,312	6,957	2,439	1,945
1976	20,891	8,722	7,385	2,749	2,035
1977	22,498	8,954	8,242	3,015	2,287
1978	24,505	9,246	8,585	4,204	2,470
1979	25,828	9,569	9,376	4,308	2,575
1980	27,455	10,172	10,043	4,463	2,777
1981	32,451	11,483	11,905	6,097	2,966
1982	39,966	13,636	14,874	7,988	3,468
1983	48,861	15,515	17,297	12,010	4,039
1984	53,473	16,543	17,900	14,666	4,364

APPENDIX D

ARMY OUTLAYS MINUS ESTIMATES IN CURRENT YEAR DOLLARS (In Millions)

<u>FY</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	-1,691	108	-800	-1,022	23
1956	-652	334	-288	-732	34
1957	274	52	-145	302	65
1958	46	66	-233	147	66
1959	514	-86	195	326	79
1960	151	-72	31	396	-204
1961	305	-242	109	169	269
1962	1,870	170	545	889	266
1963	-193	-119	-39	-36	1
1964	-847	-70	242	-887	-132
1965	184	223	29	-15	-53
1966	2,322	583	911	791	37
1967	4,173	466	2,338	1,170	199
1968	1,368	-20	1,073	471	-156
1969	505	388	-163	409	-129
1970	-357	577	-15	-914	-5
1971	1,340	750	699	-14	-95
1972	3,622	1,066	439	2,116	1
1973	725	208	-156	685	-12
1974	1,280	526	20	461	273
1975	377	304	-22	76	19
1976	-1,627	79	-117	-1,396	-193
1977	-693	212	-294	-393	-218
1978	-353	471	284	-980	-128
1979	811	609	211	157	-166
1980	2,851	928	1,033	960	-70
1981	2,494	1,361	378	763	-8
1982	1,337	1,352	-176	399	-238
1983	-1,796	298	-1,143	-570	-381
1984	-2,338	8	-696	-1,098	-552

APPENDIX E

AIR FORCE OUTLAYS IN CONSTANT 1972 DOLLARS (In Millions)

<u>FY</u>	<u>GNP DEFLATOR</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	60.84	25,150	5,793	5,433	13,191	733
1956	62.79	24,430	6,067	5,816	11,556	991
1957	64.93	26,030	5,781	6,291	12,836	1,122
1958	66.04	26,145	5,852	5,729	13,514	1,050
1959	67.60	26,132	5,951	6,205	12,773	1,203
1960	68.70	26,021	5,688	5,992	12,755	1,586
1961	69.33	29,407	5,737	6,166	15,101	2,403
1962	70.61	27,831	5,896	6,237	12,800	2,898
1963	71.67	27,199	5,651	6,058	10,887	4,603
1964	72.77	27,382	6,252	6,453	9,563	5,114
1965	74.36	23,364	6,191	6,084	6,859	4,230
1966	76.76	25,050	6,438	6,415	8,356	3,841
1967	79.06	27,997	6,754	6,918	10,241	4,084
1968	82.54	30,130	6,927	7,201	11,398	4,604
1969	86.79	29,482	7,024	7,849	10,708	3,901
1970	91.45	26,799	7,162	7,281	9,144	3,212
1971	96.01	23,988	6,985	6,650	7,427	2,926
1972	100.00	23,142	7,138	6,751	6,048	3,205
1973	105.75	21,805	6,955	6,189	5,482	3,179
1974	115.08	19,891	6,503	5,910	4,663	2,815
1975	125.79	19,124	6,055	6,154	4,285	2,630
1976	132.34	18,946	5,622	5,973	4,829	2,522
1977	140.05	18,816	5,302	5,988	4,942	2,584
1978	150.42	18,331	5,120	5,924	4,876	2,411
1979	163.42	18,743	4,947	5,850	5,450	2,496
1980	178.42	20,738	4,885	6,931	6,110	2,812
1981	195.60	22,617	5,167	7,438	6,770	3,242
1982	207.38	25,116	5,676	7,795	7,887	3,758
1983	215.34	27,367	5,816	8,052	9,235	4,264
1984	223.38	28,887	5,842	7,871	10,539	4,635

APPENDIX F

AIR FORCE OUTLAYS IN CURRENT DOLLARS (In Millions)

<u>FY</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	15,302	3,525	3,305	8,026	446
1956	15,341	3,810	3,652	7,256	623
1957	16,902	3,754	4,085	8,334	729
1958	17,266	3,864	3,783	8,925	694
1959	17,666	4,023	4,195	8,635	813
1960	17,876	3,908	4,116	8,763	1,089
1961	20,407	3,997	4,275	10,469	1,666
1962	19,651	4,163	4,404	9,038	2,046
1963	19,494	4,050	4,342	7,803	3,299
1964	19,927	4,550	4,696	6,959	3,722
1965	17,375	4,604	4,524	5,101	3,146
1966	19,227	4,941	4,924	6,414	2,948
1967	22,134	5,339	5,470	8,096	3,229
1968	24,870	5,718	5,944	9,408	3,800
1969	25,588	6,096	6,812	9,294	3,386
1970	24,508	6,550	6,659	8,362	2,937
1971	23,032	6,707	6,385	7,131	2,809
1972	23,142	7,138	6,751	6,048	3,205
1973	23,060	7,355	6,545	5,798	3,362
1974	22,892	7,484	6,801	5,367	3,240
1975	24,057	7,617	7,742	5,390	3,308
1976	25,074	7,441	7,905	6,390	3,338
1977	26,351	7,425	8,386	6,922	3,618
1978	27,574	7,702	8,911	7,335	3,626
1979	30,631	8,085	9,560	8,906	4,080
1980	37,001	8,716	12,366	10,902	5,017
1981	44,239	10,107	14,549	13,242	6,341
1982	52,088	11,772	16,166	16,356	7,794
1983	58,931	12,524	17,339	19,886	9,182
1984	64,528	13,051	17,583	23,541	10,353

APPENDIX G

AIR FORCE BUDGET YEAR ESTIMATES, CURRENT DOLLARS (In Millions)

<u>FY</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	14,930	3,325	3,400	7,775	430
1956	14,403	3,338	3,450	7,075	540
1957	15,275	3,758	3,800	7,107	610
1958	15,903	3,850	4,135	7,248	670
1959	16,623	3,789	4,068	8,046	720
1960	17,421	4,012	4,174	8,224	1,011
1961	19,318	4,051	4,192	9,997	1,078
1962	19,152	4,054	4,200	9,764	1,134
1963	19,054	4,179	4,357	7,478	3,040
1964	18,897	4,203	4,385	6,687	3,622
1965	18,454	4,448	4,606	6,195	3,205
1966	17,854	4,549	4,600	5,565	3,140
1967	19,081	4,986	4,770	6,385	2,940
1968	23,156	5,741	5,400	8,735	3,280
1969	25,312	5,848	6,481	9,483	3,500
1970	25,097	6,004	6,680	8,937	3,476
1971	22,686	6,161	6,203	7,254	3,068
1972	22,106	6,263	6,201	6,695	2,947
1973	21,889	6,979	6,104	5,775	3,031
1974	22,705	7,028	6,646	5,934	3,097
1975	24,462	7,557	7,386	6,108	3,411
1976	25,343	7,493	8,081	6,029	3,740
1977	26,430	7,216	8,352	7,428	3,434
1978	29,316	7,352	8,870	8,965	4,129
1979	30,663	7,674	9,663	9,162	4,164
1980	32,080	8,026	10,126	9,316	4,612
1981	37,952	8,862	12,195	10,876	6,019
1982	50,186	10,550	16,789	14,912	7,935
1983	61,751	12,304	17,955	21,314	10,178
1984	71,443	13,068	19,256	26,862	12,257

APPENDIX H

AIR FORCE OUTLAYS MINUS ESTIMATES IN CURRENT YEAR DOLLARS (In Millions)

<u>FY</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	372	200	-95	251	16
1956	938	472	202	181	83
1957	1,627	-4	285	1,227	119
1958	1,363	14	-352	1,677	24
1959	1,043	234	127	589	93
1960	456	-104	-57	539	78
1961	1,217	74	83	472	588
1962	501	109	204	-724	912
1963	440	-129	-15	325	259
1964	1,030	347	311	272	100
1965	-1,080	155	-82	-1094	-59
1966	1,374	393	324	849	-192
1967	3,053	353	700	1,711	289
1968	1,509	-228	544	673	520
1969	275	248	330	-189	-114
1970	-590	545	-21	-575	-539
1971	347	546	182	-123	-258
1972	1,036	875	550	-647	258
1973	1,171	376	441	23	331
1974	187	456	155	-567	143
1975	-405	60	356	-718	-103
1976	-269	-53	-175	361	-402
1977	-78	209	35	-506	184
1978	-1,742	350	41	-1,630	-503
1979	-32	411	-103	-256	-84
1980	4,921	690	2,240	1,586	405
1981	6,288	1,245	2,354	2,367	322
1982	1,902	1,222	-623	1,444	-141
1983	-2,820	220	-616	-1,428	-996
1984	-6,916	-17	-1,674	-3,321	-1,904

APPENDIX I

NAVY OUTLAYS IN CONSTANT 1972 DOLLARS (In Millions)

<u>FY</u>	<u>GNP DEFLATOR</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	60.84	15,723	5,039	4,834	5,102	748
1956	62.79	15,309	5,026	4,010	5,558	715
1957	69.93	14,410	4,552	3,950	5,161	747
1958	66.04	16,678	4,829	4,076	6,837	936
1959	67.60	17,479	4,852	4,102	7,345	1,180
1960	68.70	15,389	4,696	4,017	5,560	1,116
1961	69.33	18,688	4,645	4,002	8,070	1,971
1962	70.61	18,396	4,700	4,346	7,510	1,840
1963	71.67	19,747	4,798	4,189	8,787	1,973
1964	72.77	19,957	5,267	4,219	8,303	2,168
1965	74.36	18,314	5,407	4,533	6,634	1,740
1966	76.76	19,994	6,045	5,293	6,823	1,833
1967	79.06	23,480	6,618	6,395	8,202	2,265
1968	82.54	25,293	6,931	6,252	9,683	2,427
1969	86.79	25,886	7,079	6,630	9,820	2,357
1970	91.45	24,332	7,295	6,071	8,687	2,279
1971	96.01	22,502	6,673	5,721	7,603	2,505
1972	100.00	21,999	6,748	5,689	7,135	2,427
1973	105.75	21,100	6,803	5,378	6,646	2,273
1974	115.08	20,419	6,376	5,658	6,106	2,279
1975	125.79	21,467	6,267	6,395	6,405	2,402
1976	132.34	21,051	5,969	6,872	5,781	2,429
1977	140.05	21,451	5,842	7,065	6,058	2,486
1978	150.42	21,922	5,775	7,490	6,114	2,543
1979	163.42	22,667	5,579	7,528	7,219	2,341
1980	178.42	23,642	5,514	8,726	6,947	2,455
1981	195.60	25,530	6,110	9,416	7,559	2,445
1982	207.38	27,969	6,579	10,113	8,750	2,527
1983	215.34	30,345	6,981	10,522	10,124	2,718
1984	223.38	31,269	7,032	10,515	10,740	2,982

APPENDIX J

NAVY OUTLAYS IN CURRENT YEAR DOLLARS (In Millions)

<u>FY</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	9,566	3,066	2,941	3,104	455
1956	9,611	3,156	2,518	3,488	449
1957	10,078	3,184	2,762	3,609	523
1958	11,014	3,189	2,692	4,515	618
1959	11,816	3,280	2,773	4,965	798
1960	10,573	3,226	2,760	3,820	767
1961	12,984	3,211	2,834	5,715	1,224
1962	12,990	3,319	3,069	5,303	1,299
1963	14,153	3,439	3,002	6,298	1,414
1964	14,523	3,833	3,070	6,042	1,578
1965	13,619	4,021	3,371	4,933	1,294
1966	15,347	4,640	4,063	5,237	1,407
1967	18,564	5,232	5,056	6,485	1,791
1968	20,876	5,721	5,160	7,992	2,003
1969	22,467	6,144	5,754	8,523	2,046
1970	22,252	6,671	5,552	7,945	2,084
1971	21,605	6,407	5,493	7,300	2,405
1972	21,999	6,748	5,689	7,135	2,427
1973	22,313	7,194	5,687	7,028	2,404
1974	23,498	7,337	6,511	7,027	2,623
1975	27,005	7,883	8,044	8,057	3,021
1976	27,858	7,899	9,094	7,650	3,215
1977	30,042	8,182	9,895	8,484	3,481
1978	32,975	8,687	11,266	9,197	3,825
1979	37,042	9,117	12,302	11,797	3,826
1980	42,182	9,838	15,569	12,394	4,381
1981	49,937	11,951	18,418	14,785	4,783
1982	58,002	13,644	20,973	18,145	5,240
1983	65,346	15,032	22,659	21,801	5,854
1984	69,849	15,709	23,488	23,990	6,662

APPENDIX K

NAVY BUDGET YEAR ESTIMATES, CURRENT DOLLARS (In Millions)

<u>FY</u>	<u>TOTAL</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	10,323	3,048	3,540	3,675	60
1956	9,497	2,911	2,395	3,757	434
1957	9,359	3,145	2,448	3,316	450
1958	9,944	3,219	2,730	3,495	500
1959	10,284	3,086	2,670	3,928	600
1960	11,441	3,263	2,752	4,504	922
1961	11,532	3,296	2,775	4,435	1,026
1962	11,947	3,358	2,768	4,572	1,249
1963	13,736	3,520	3,185	5,651	1,380
1964	15,044	3,553	3,142	6,849	1,500
1965	14,607	3,905	3,295	5,949	1,458
1966	14,560	4,041	3,409	5,715	1,395
1967	16,851	4,821	4,140	6,325	1,565
1968	19,968	5,591	5,060	7,477	1,840
1969	22,161	5,914	5,913	8,204	2,130
1970	22,503	6,246	5,789	8,318	2,150
1971	20,547	6,066	5,212	7,104	2,165
1972	20,892	5,829	5,306	7,497	2,260
1973	22,123	6,796	5,461	7,423	2,443
1974	23,539	7,062	5,951	7,967	2,559
1975	25,818	7,741	7,360	7,714	3,003
1976	27,604	7,882	8,765	7,708	3,249
1977	31,605	8,177	9,703	9,718	4,007
1978	34,191	8,396	11,370	10,433	3,992
1979	36,019	8,638	12,619	10,578	4,184
1980	38,160	9,149	13,155	11,441	4,415
1981	44,015	10,031	16,099	13,232	4,653
1982	55,170	12,392	20,333	16,872	5,573
1983	64,717	14,528	23,185	21,057	5,947
1984	73,274	15,596	24,618	25,921	7,139

APPENDIX L

DOD BUDGET DATA IN CONSTANT 1972 DOLLARS (In Millions)

<u>FY</u>	<u>GNP DEFLATOR</u>	<u>DOD</u>	<u>MP</u>	<u>O&M</u>	<u>PROC</u>	<u>RDT&E</u>
1955	60.84	68,787	17,855	17,481	24,984	1,389
1956	62.79	54,149	16,434	14,498	19,479	2,150
1957	64.93	54,747	16,830	14,358	17,978	2,202
1958	66.04	57,541	17,144	15,333	23,346	2,392
1959	67.60	58,845	16,910	15,651	20,530	2,655
1960	68.70	59,600	16,331	15,014	20,287	4,137
1961	69.33	61,654	16,374	15,025	19,975	4,505
1962	70.61	63,249	16,236	15,066	20,426	5,577
1963	71.67	67,392	17,117	15,532	22,015	7,953
1964	72.77	70,084	16,751	15,432	22,437	9,015
1965	74.36	68,854	17,637	15,480	19,816	8,150
1966	76.76	62,402	17,314	15,225	17,170	7,699
1967	79.06	72,287	20,743	17,948	20,149	7,513
1968	82.54	87,594	23,973	21,834	26,150	8,129
1969	86.79	88,496	23,626	24,354	26,956	8,388
1970	91.45	85,808	23,449	22,650	25,560	7,978
1971	96.01	74,149	21,780	19,220	19,507	7,183
1972	100.00	74,975	20,105	18,944	17,875	6,985
1973	105.75	71,776	21,870	18,111	15,157	6,996
1974	115.08	67,953	19,552	17,520	14,274	6,581
1975	125.79	67,255	19,420	18,308	12,949	6,653
1976	132.34	67,856	18,891	19,371	12,404	6,819
1977	140.05	71,090	18,030	19,854	14,396	6,946
1978	150.42	72,811	17,288	20,225	15,700	7,042
1979	163.42	70,493	16,440	20,422	14,690	6,684
1980	178.42	68,771	15,944	19,675	14,150	6,616
1981	195.60	72,955	16,210	21,608	15,443	6,973
1982	207.38	88,919	18,459	26,339	19,180	8,186
1983	215.34	100,260	20,676	27,804	25,259	9,363
1984	223.38	106,813	21,343	28,969	30,222	10,637

REFERENCES

1. Anderson, John, Distribution of Budgeted Outlays With Regard to the Availability of Funds in the DOD, M.S. Thesis, Naval Postgraduate School, Monterey, California, June 1983.
2. Benson, Janet G., Appropriations Distribution Trends With Regard to the Availability of Funds in the DON Budget, M.S. Thesis, Naval Postgraduate School, Monterey, California, December 1985.
3. Shockley, Danny A., A Historical Analysis of Department of Defense Budget Trends, Requests, and Justifications, M.S. Thesis, Naval Postgraduate School, Monterey, California, December 1985.
4. Budget of the United States Government, Fiscal Year 1955 through Fiscal Year 1986, Washington, D.C.: United States Government Printing Office.
5. The Economic Report of the President, transmitted to Congress, February 1985, Washington D.C.: United States Government Printing Office, 1985.
6. Kauffmann, William W., The McNamara Strategy, Harper and Row, 1964.
7. Anderson, J. E., Public Policy Making, Holt, Rinehart and Winston, 1979, cited by H. S. Duncombe and F. Heffron, "Legislative Budgeting," in T. D. Lynch and J. Rabin, Handbook on Public Budgeting and Financial Management, Mercel Dekker Inc., 1983.
8. Parker, Steven, "Budgeting as an Expression of Power," in T. D. Lynch and J. Rabin, Handbook on Public Budgeting and Financial Management, Mercel Dekker Inc., 1983.
9. Collender, Stanley E., The New Guide to the Federal Budget: Fiscal 1987, The Urban Institute Press, 1986.
10. Wildavsky, Aaron, The Politics of the Budgetary Process, Little, Brown and Company, 1984.
11. Fenno, Richard F., Jr., The Power of the Purse: Appropriations Politics in Congress, Little, Brown and Company, 1966.

12. Kanter, A., "Congress and the Defense Budget: 1960-1970," American Political Science Review 66:129-143, 1972, cited by S. Parker, "Budgeting as an Expression of Power," in T. D. Lynch and J. Rabin, Handbook on Public Budgeting and Financial Management, Mercel Dekker Inc., 1983.
13. Wildavsky, Aaron, Budgeting, A Comparative Theory of Budgetary Processes, Little, Brown and Company, 1975.
14. Leloup, L. T., "The Myth of Incrementalism: Analytical Choices in Budgetary Theory," Polity 10:488-509, 1978, cited by S. Parker, "Budgeting as an Expression of Power," in T. D. Lynch and J. Rabin, Handbook on Public Budgeting and Financial Management, Mercel Dekker Inc., 1983.
15. Grafton, C. and A. Permaloff, "Budgeting Reforms in Perspective," in T. D. Lynch and J. Rabin, Handbook on Public Budgeting and Financial Management, Mercel Dekker Inc., 1983.
16. Enthoven, Alain C. and Wayne K. Smith, How Much is Enough?, Harper and Row, 1971.
17. Hobkirk, Michael D., The Politics of Defence Budgeting, National Defense University Press, 1983.
18. Stromberg, John L., The Internal Mechanisms of the Defense Budget Process—Fiscal 1953-1968, Rand Corporation, 1970.
19. Palmer, Gregory, The McNamara Strategy and the Vietnam War, Greenwood Press, 1978.

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