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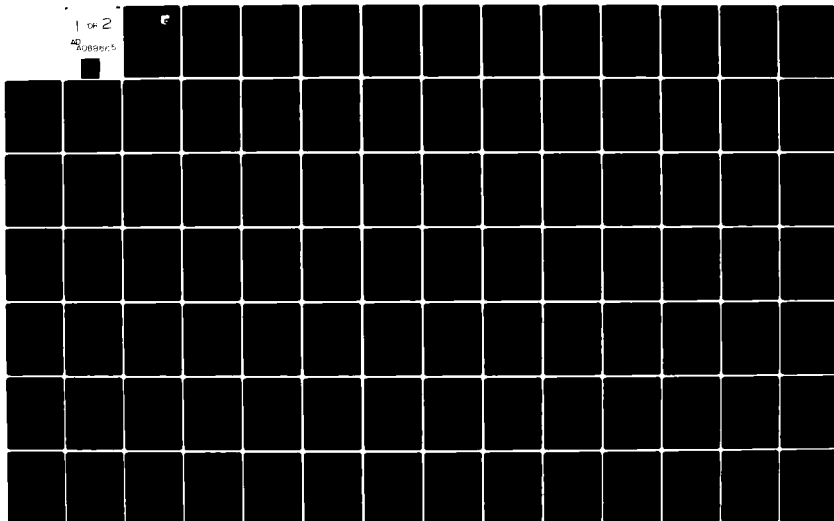
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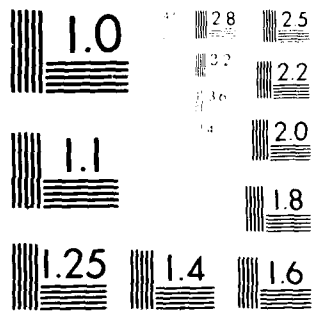
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ZERO-BASE BUDGETING IMPACT ON AIR FORCE LABORATORIES

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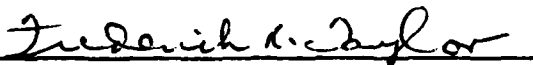
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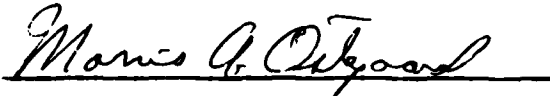


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is working very effectively in Air Force research and development organizations, but not necessarily as advertised to the public as a concept to provide substantial reductions in government spending. The basic finding is that neither Zero-Base nor any other budgeting concept can impact no more than approximately twenty-five percent (25%) of the Federal budget, because roughly seventy-five (75%) is committed to permanent allocations such as social security, pensions and debt interest. Recommendations are made concerning the positive aspects of management involvement, feedback and communication between hierarchical levels as instruments of morale building and leadership development. The findings and recommendations of this study provide insights that can be beneficial in improving the effectiveness of budgeting and administration of Air Force research and development management.

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PREFACE

This report comprises a research thesis by Mr. Frederick R. Taylor during the period 23 August 1979 through 16 May 1980 as partial fulfillment of the requirements for the degree of Master of Arts in Public Administration from The University of New Mexico under the Fellowship Program for Advanced Study in Public Science Policy and Administration. Mr. Taylor of the Air Force Wright Aeronautical Laboratories, Flight Dynamics Laboratory, Flight Control Division, Control System Development Branch, Control Techniques Group, was sponsored as an Air Force Fellow. He has a BS in Electrical Engineering from Tennessee State A&I University (1960).

The author is indebted to the Thesis Committee, Dr. Albert H. Rosenthal, Chairman, Dr. Ferrel Heady and Professor Frank Kleinhenz, all of New Mexico University Public Administration Department. Special contributions were also made by Messrs. Bob Tolliven and Ted Clements of the Air Force Weapons Laboratory. Assistance was provided by Mr. James Hodges, Flight Dynamics Laboratory, Vehicle Equipment Division.

The study examined the impact of Zero-Base Budgeting and prior budgeting concepts on Air Force R&D Laboratories. The research concludes that lessons learned from previous experiences with budgeting systems have been used by management. Findings and recommendations of this study provide insights that can be beneficial in improving the effectiveness of budgeting and administration of Air Force research and development management.

A

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CHAPTER I

METHODOLOGY AND SCOPE

Statement of Problem

The Federal government has been under pressure from the public to increase efficiency and effectiveness of the governmental system. A number of budgeting concepts as reforms have been tried with limited success in the past. President Carter in 1977 introduced a new type of budgeting to the Federal government, Zero-Base Budgeting (ZBB), which he used as Governor of the State of Georgia. There is no question that Zero-Base Budgeting is a viable concept for public agencies, since it has been used with some success by local governments and by private business.

Recent budgeting or managerial concepts such as Planning, Programming and Budgeting and Management by Objective were hampered in their implementation, not by their functional mechanics, but, by other factors. This thesis is concerned with examining the experiences and lessons learned from the success or failure of prior budgeting concepts to derive insights that can improve the effectiveness and responsiveness of ZBB's implementation in DOD from the middle management perspective, thereby improving their policy making capabilities.

Background

There are four major purposes fulfilled by budgets. First, budgets are used as a device in making and coordinating short range plans. Budgets communicate these plans in a consistent and uniform manner to those managers who are responsible for carrying them out. Thirdly, budgets are useful as standards against which actual performance can be subsequently compared. Lastly, budgets can be used to motivate managers at all levels in the organizational structure.¹ There are many different ways to define or describe a budget but Lynn and Freeman describe a budget as a financial plan and, in terms of this country, . . . "the most significant policy statement made by the Federal government is the annual adoption of the budget."²

The concept of budgeting or resource allocation in scarcity has been around since biblical times, and perhaps before. Some of the initial concerns were primarily to prevent waste and misuse; however the modern day trend in budgeting does not concentrate on misuse (individual) but is highly concerned with reducing waste through efficiency and effectiveness. In this country, budgeting followed somewhat the European concepts and until the early 1900s was described by one author as . . . "an instrument of control over the officers . . . of administration by placing limitations on their authority to spend."³

During the twentieth century, the Federal budgeting process has undergone progressive changes or reforms that

altered the planning-management-control balance of public administration.⁴ Following this trend, there have been three significant budget reform stages starting with the Budgeting Accounting Act of 1921, which increased the presidential power in the budgeting process. The 1930's brought on the New Deal and the introduction of the management approach which culminated in the performance or program budgeting in the 1950's. In an attempt to provide a formal systematic method to improve decisions in the budgetary process, Planning, Programming and Budgeting was introduced as the third budget reform stage.

There have been other managerial or budgetary concepts during the 1970's aimed at improving the decision making-budgetary process. Management by Objectives was in use for a short period, but has been replaced since 1977 by a new budgetary concept, Zero-Base Budgeting.

The dichotomy of increasing inflation and resource scarcity pitted against increasing public expectations has changed the generalized perception of the Federal bureaucracy. President Carter recognized the change in the political mood from promising more to government providing more efficiency; therefore, on February 14, 1977, he issued an order establishing Zero-Base Budgeting throughout the Federal government. He noted that:

"An effective Zero-Base Budgeting system will benefit the Federal government in several ways. It will:

Focus the budget process on a comprehensive analysis of objectives and needs.

Combine planning and budgeting into a single process.

Cause managers to evaluate in detail the cost-effectiveness of their operations.

Expand management participation in planning and budgeting at all levels of Federal government . . .

By working together under a Zero-Base Budgeting system, we can reduce costs and make the Federal government more efficient and effective . . ."⁵

Zero-Base Budgeting was implemented in the Department of Defense (DOD) in 1977. An examination of lessons learned and applied is the basis for this thesis. The thesis will also explore the implications of a new legislative act, "Sunset Law." This law would require that Congress review all authorizations of Federal programs and terminate them over a four to six year period unless they are reenacted and that all Federal programs undergo Zero-Base review (i.e., program evaluation) before they could be reauthorized or reenacted.⁶ The effect of either ZBB or Sunset on the total Federal budget is limited, since approximately 75 percent of the budget includes permanent authorizations such as social security, retirements, and interest on the debt that would be unaffected by either concept.

Scope

The research for this study encompasses a review of books, journals and periodicals written by authorities; extensive review of government documentation relative to the implementation of budgeting concepts, in particular Zero-Base Budgeting; and an interview evaluation of Air Force middle management experiences with the implementation of Zero-Base Budgeting. This study is focused on middle management in research and development organizations. Middle management as used herein refers to Air Force Systems Command laboratory commanders or chiefs. This derivation is based on the definition of middle managers by Golembiewski in his book, Managerial Behavior and Organizations, which is "Managing by Hundreds: Middle Management and Department Dynamics."⁷

Hypothesis

It is hypothesized that "lessons and insights learned from prior applications of Zero-Base and other budgeting concepts are being used to improve the effectiveness of budgeting and administration in Air Force Research and Development Laboratories."

Objectives

The specific objective of this thesis is to examine the experiences encountered with the "successes or failures" of prior budgeting concept applications to derive insights that can improve the effectiveness of Zero-Base Budgeting's

implementation in DOD from middle management's perspective. The study has five sub-objectives that can be achieved by answering the following questions:

1. What lessons were learned from other budgeting concepts and are they being applied to budgeting in Air Force laboratories?
2. What insights were gained from prior applications of Zero-Base Budgeting in other domains (public and private sectors) and are they being applied in the Air Force?
3. Is Zero-Base Budgeting being substituted for the political process or management judgements?
4. In view of Sunset Legislation, should Zero-Base Budgeting be applied yearly as currently done, or every five or six years?
5. What are the implications of Zero-Base Budgeting to middle level R&D management in the Air Force?

Methodology

The basic techniques are a literature review and an interview evaluation. The extensive literature review of authoritative sources and government documents does provide the background setting and insights for the evaluation. The structured interviews provided up-to-date experiences of ZBB in DOD during the past two budgeting cycles and also noted some legislative perspectives of Sunset implications.

The focus of this study is tailored toward middle management in R&D organizations. While they are not in policy making positions, their reflections and inputs can enhance the upward flow of meaningful information to the policy-decision making hierarchy. The concern is to improve the communication and effectiveness of the total budgeting-planning process.

Significance of the Study

The significance of this study is to provide insights from prior experiences that can improve the effectiveness and responsiveness of the DOD budgeting process. Since ZBB is a bottom-up process, the author's view is that improving the lower or middle management step in the process will translate into overall implementation improvements. However, insights or lessons surfaced in the study are in no way close ended and can be transferred upwards to higher levels.

The perspective of a need for improved budgetary efficiency is dictated by this era of growing inflation, increased emphasis on domestic programs and diminishing interest (public and Congressional) in national defense. This makes the job of fiscal management significantly more difficult for DOD which is perhaps one of the world's largest businesses in terms of dollars. Standard and Poor's Register in 1976 noted that DOD's annual budget was over three times larger than General Motors at \$31

billion.⁸ As one public official said at that time, DOD's financial status is highly visible, especially by the "have nots" of this country, and we should make doubly sure that waste is removed from each and every pocket.⁹

To set the stage for this study, it may be well to review in an historical sense the evolution of budgeting, what it is and how this country and DOD have arrived at the present budgeting concept, Zero-Base Budgeting.

Historical Perspective

There is no single definition which could adequately describe the unduly complex function and purpose of budgeting. Originally our Federal budget served somewhat as an accounting function, with the primary purpose being that of controlling expenditures for efficiency. One formal definition is that the purpose of budgeting is to coordinate a plan which will insure that resources will be utilized in an efficient manner to accomplish an established goal.¹⁰ The plan should be time scoped and include consideration of the availability of resources with references to prioritization.

The Federal budget, as discussed herein, is an expression of an interrelated complex of decisions designed to accomplish various purposes. Lynn and Freeman see the budget as a plan of financial operation embodying an estimate or proposed expenditures for a given period and the proposed means of financing them. Used without any modi-

fier, the term usually indicates a financial plan for a single year.¹¹

Since the establishment of this country and the Constitution, there were provisions for budgetary procedures by the executive and legislative agencies. Almost from the beginning and especially during the twentieth century, there has been a continuous effort to improve the budgeting process. These improvement efforts are known as budget reforms. The three most notable reforms, since the early 1920's, were the Budget Accounting Act of 1921, the New Deal performance budgeting initiatives of the 1930's and 1940's and later the Planning Programming Budgeting System (PPBS) of the 1960's. There have been other budgetary reforms since the 1960's but this paper is directed at examining their use in the Federal government, more specifically the Department of Defense.

No one can establish definitely when the concept of budgeting or resource allocation in scarcity began. There are biblical references to tax collections in ancient Babylonia, Assyria and in Egypt under the Pharaohs, i.e. references to Joseph the Provider.¹² Some of the major concerns of budgeting have been the controlling resources so as to prevent waste, overspending and not least of all, misuses. History is replete with accounts of punishments for dishonesty. This surfaced during the Puritan Revolution in England, wherein London merchants were suspicious of the management of

resources by the parliamentary committees and voiced their complaints in the following manner:

. . . having arranged the receipts and revenues . . . so disorderly and ineffectually that the Kingdom cannot but be unsatisfied concerning the due employment thereof and doubt that much of the public money hath been employed to private ends and remains obscured in the hands of such as were intrusted the collection of those assessments . . .¹³

Over the years and into the eighteenth century, the trend by European governments was to place professionals into roles of handling the treasury and the emphasis was no longer on misuse by individuals but economy. This country, in setting up its Constitution, adopted this policy. Therefore, the trend in budgetary practices in America, since the late nineteenth century to this date, has been toward developing and utilizing administrative technology for efficiency. Most of the basis for improvements and budgetary reforms have been directed toward achieving a given objective at least cost or getting the most of a given objective out of a stated sum of money.¹⁴

James W. Davis, Jr. explains that every reform alters the planning-management-control balance of public administration, sometimes inadvertently, usually deliberately.¹⁵ In reviewing the Federal budgetary process during this century, through the early 1970's, there are three identifiable successive stages of budget reform. The first reform stage was roughly from 1920 to 1933 wherein emphasis was placed on developing adequate expenditure controls to

combat beginning budget deficits. This led to the Budgeting Accounting Act of 1921, which created the Bureau of the Budget and the General Accounting Office. But, more importantly, it strengthened the president's participation in and influence of the planning and preparation of the budget.

The second budget reform stage was from the early 1930's, Roosevelt's Administration through the 1950's, with the introduction of the management approach to budgeting, beginning with the New Deal. The management emphasis made its mark in the reform of the appropriation structure, development of management improvements and work measurement programs (Full Employment Act of 1946) and the focusing of budget preparation on the work activities of the agencies (Budget Accounting and Procedures Act of 1950, resulting from the Hoover Commission). With the urging of the first Hoover Commission (included studying the Federal budget process), performance or program budgeting was initially used in President Truman's budget in 1950.¹⁶ An object-of-expenditure format was still being used and individual item justifications were missing. Also, budget estimates were being compiled incrementally, which essentially piggybacked on previous year's expenditures plus increases or decreases, as warranted.

The third budget reform stage in Federal budgeting was the introduction of the Planning, Programming and Budgeting (PPB) concept to the Department of Defense in 1964. PPB

is a management system used by the Johnson Administration in an attempt to provide a formal systematic method to improve decisions concerning allocation of resources.¹⁷ This concept was popularized by the Secretary of Defense, Robert McNamara, but was extended by President Johnson to the whole government. It later spread to state and local governments, as well as to governments throughout the world.

PPBS was not accepted by the governmental bureaucracy and was replaced by the Nixon Administration in 1973 by Management by Objectives (MBO). This concept was less formalized and structured than PPBS, but it also failed to gain full acceptance by the executive agencies. Many reasons were given for its lack of acceptance including the domination form of control, political and administration problems and the difficulty in translating agency missions into actual operational plans.¹⁸ Peter Drucker, speaking earlier to the problems of harmonizing the personal goals of middle management with organizational goals when using the domination form of control, perhaps summarizes the primary reason that MBO failed:

Control is an ambiguous word. It means the ability to direct oneself and one's work. It can also mean domination of one person by another . . . management . . . objectives are the basis of control in the first sense; but they must never become the basis of control in the second, for this would defeat their purposes. Indeed one of the major contributions of management by objectives is that it enables us to substitute management by self control for management by domination.¹⁹

Some of the characteristics of both PPBS and MBO proved effective and were later surfaced in Zero-Base Budgeting as introduced by President Carter in 1977. ZBB was first attempted in the Department of Agriculture in the early 1960's.²⁰ It proved impractical at that time and was discontinued. ZBB later surfaced, some think originated, at Texas Instruments, having been introduced by Peter Phyrre in 1968.²¹ Jimmy Carter, then Governor of Georgia, obtained Phyrre's assistance in implementing it in Georgia and he later implemented it in the Federal government upon his inauguration as President in 1977.

Organization of this Study

The study is arranged to review the governmental experience with past budgeting concepts; to take a closer look at the current experience with Zero-Base Budgeting and legislative initiatives; and finally, to assess and draw conclusions from an interview of Air Force middle managers based on operational experiences. Chapter II examines the operational history of Planning, Programming and Budgeting System (PPBS) in the Department of Defense (DOD). Specific emphasis is placed on identifying lessons learned from these experiences that may benefit DOD management in the implementation of current and future budgeting or managerial concepts. Critics differ on whether or not PPBS was a success or failure in DOD; however, the intent of this study is not to evaluate the success ratio but to explore actual experi-

ences that can be beneficial to Air Force management.

Chapter III examines the operational experiences of Management by Objectives (MBO) in both the public and private sectors. MBO was introduced to the Federal government in 1973 as a replacement for PPBS (Planning, Programming and Budgeting System) but was aborted shortly after it was introduced due to political changes at the executive level. This chapter examines some of the reasons for MBO's demise and discusses some of the special features of MBO that are being used by some Air Force laboratories as participative management approaches to employee evaluations.

Chapter IV is a combined investigation of Zero-Base Budgeting and Sunset Legislation. Zero-Base Budgeting was introduced to all Federal agencies in 1977 and "Sunset Legislation" or "Sunset Laws" have been debated in the past three Congressional sessions, but have not been enacted at the Federal level. The degree of success of Zero-Base Budgeting in the DOD, specifically in the Air Force Laboratories, is examined in view of past experiences with this and other budgeting concepts in both public and private sectors. The implications of Sunset Laws on Zero-Base Budgeting in the government is explored to determine possible effects on the Federal budgeting process.

Chapter V is a correlation and analysis of the interview covering first hand experiences of middle managers in Air Force Research and Development Laboratories. The evaluative focus is on the impacts and implications of Zero-Base

Budgeting and other budgeting systems to middle management.

In Chapter VI, conclusions and recommendations are presented on the impacts, implications and insights of Zero-Base Budgeting in the Air Force Laboratories. This budgeting concept appears to have been fairly successful in the Air Force and it is hoped that any insights presented in the study will improve the effectiveness and human aspects of its continued implementation.

Chapter I Endnotes

¹Robert N. Anthony, Management Accounting (Homewood: Richard D. Irving, Inc., 1970), p. 150.

²Edward S. Lynn and Robert J. Freeman, Fund Accounting: Theory and Practice (New York: Prentice-Hall, Inc., 1974), p. 282.

³Selwyn W. Becker and David Green, Jr., "Budgeting and Employee Behavior," Accounting and its Behavioral Implications (New York: McGraw-Hill, 1969): 322.

⁴James W. Davis, Jr., ed., Politics, Programs and Budgets: A Reader in Government Budgeting (Englewood Cliffs: Prentice-Hall, 1969), p. 27.

⁵President Jimmy Carter, "Memorandum for the Heads of Executive Departments and Agencies," Washington, Executive Office of the President, 14 February 1977, p. 2.

⁶U.S. Congress, Senate, Committee on Governmental Affairs, Report, Program Evaluation Act of 1977, No. 95-326, 1 July 1977, p. 110.

⁷Robert T. Golembiewski, Managerial Behavior and Organizations (Chicago: Rand McNally, 1967), p. 125.

⁸Standard and Poor's Register, Corporations, Directors and Executive 1976 (New York: Standard and Poor's Corporation, 1976), p. 887.

⁹Donald H. Rumsfield, Annual Defense Department Report FY1977 (Washington: U.S. Government Printing Office, 27 January 1976): 2.

¹⁰Phillip B. Gove, ed., Third New Merriam-Webster Dictionary (New York: G & C Merriam Co., 1964), p. 18.

¹¹Idem, Lynn and Freeman, p. 282.

¹²Aaron Wildavsky, Budgeting: A Comparative Theory of Budgeting Process (Boston: Brown, 1975), p. 271.

¹³Aaron Wildavsky, The Politics of the Budgeting Process (Boston: Brown, 1964), pp. 173-175.

¹⁴Ibid., p. 274.

¹⁵Idem, Davis, p. 212.

¹⁶Percival F. Brundage, The Bureau of the Budget (New York: Praeger Publishers, 1970), p. 3.

¹⁷Thomas D. Lynch, Public Budgeting in America (Englewood Cliffs: Prentice-Hall, 1979), p. 30.

¹⁸Lance T. LeLoup, Budgetary Politics (Brunswick: Kings Court Communications, 1977), p. 230.

¹⁹Peter F. Drucker, The Practice of Management (New York: Harper and Row Publishers, Inc., 1954), p. 131.

²⁰"Zero-Base Planning and Budgeting," The Management Counselor (January 1977): 2-5.

²¹Peter A. Phyrr, Zero-Base Budgeting: A Practical Management Tool for Evaluating Expenses (New York: Wiley and Sons, 1973), p. 4.

CHAPTER II

PLANNING, PROGRAMMING AND BUDGETING SYSTEM (PPBS)

This chapter examines the operational history of Planning, Programming and Budgeting System (PPBS) in the Department of Defense (DOD) and other applications to surface lessons learned that may benefit DOD management in future budgeting or managerial conceptualizations. PPBS was superseded by other budgeting concepts in the early 1970's, but some experiences gained by its use in DOD for some fifteen years can be used as guides in implementing concepts such as Zero-Base Budgeting. Current documentation and literature indicate that PPBS was not a complete success in its applications in DOD and other governmental agencies. The intent herein is not to evaluate PPBS's success or failure ratio but to surface pro and con experiences that may be beneficial to Air Force managers in future planning and budgeting processes.

The Emergence of PPBS

The Planning, Programming and Budgeting System did not happen accidentally nor did it emerge by some black magic through osmosis from the Rand Corporation. In fact, its genesis can be found in several disciplines, since it in-

volves the basics of theories such as operations research, system analysis and cybernetics.¹

Robert McNamara, Secretary of Defense, at the behest of President Johnson, developed PPBS for the Department of Defense (DOD) as an innovative concept to aid in coping with financial difficulties that were impacted by inflation and Congressional restraints. This was an era of increasing emphasis on domestic programs and diminishing interest in national defense needs. Mr. McNamara said in projecting PPBS,

From the beginning . . . it seemed to me that the principal problem in the efficient management of the department resources was not the lack of management authority . . . The problem was rather the absence of essential management tools needed to make sound decisions on the really concise issues of national security.²

Almost from the beginning there were critics such as R. H. Haveman and J. Margolis who surmised that even though PPBS may help officials make decisions and, hence, run more smoothly; operating a decision process smoothly does not necessarily mean that process is effective.³ However, Charles L. Schultze, former Director, Bureau of the Budget, suggests that PPBS is exactly what Mr. McNamara wanted, that is, "a means of helping responsible officials make decisions."⁴ Jack W. Carlson, writing in Current Practice in Program Budgeting, expressed some reservations about PPBS but also feels that it has been helpful in defining program objectives, disseminating quality, determining

relevant information and recognizing the legitimacy and necessity of analytical arguments.⁵

Description of PPBS

B. Gross described President Johnson's introduction of program budgeting as potentially the most significant management improvement in the history of American government.⁶

Another source notes that:

. . . the system known as planning-programming-budgeting (PPBS), which future historians may consider the most significant administrative innovation of the 1960's . . . It is doubtful that any definition would satisfy all students and practitioners of PPBS, but most would agree that a central feature is the objective analysis of the probable costs and effectiveness of alternative courses of action to achieve goals . . . In the words of one public official, "PPBS is simply a means to make public decision-making more rational."⁷

Program budgeting (or PPBS in common usage, used interchangeably herein) is a management system that has ten distinctive major features. These are:

1. Definition of an organization's objectives in terms as specific as possible.
2. Determination of programs, including possible alternatives, to achieve the stated objectives.
3. Identification of major issues to be resolved in the formulation of objectives and/or the development of programs.
4. An annual cycle with appropriate subdivisions for the planning, programming, and budgeting

steps to ensure an ordered approach and to make appropriate amounts of time available for analysis and decision-making at all levels of management.

5. Continuous reexamination of program results in relationship to anticipated costs and outcomes to determine need for changes in stated programs and objectives as originally established.
6. Recognition of issues and other problems that require more time than is available in the annual cycle so that they can be explicitly identified and set apart from the current period for completion in two or more years, as the subject matter and availability of personnel require.
7. Analysis of programs and their alternatives in terms of probable outcomes and both direct and indirect costs.
8. Development of analytical tools necessary for measuring costs and benefits.
9. Development each year of a multi-year program and financial plan with full recognition of the fact that in many areas resource allocations in the early years (e.g., years one through five) require projections of plans and programs and their resource demands for ten or more years into the future.

10. Adaptation of existing accounting and statistical-reporting systems to provide inputs into planning and programming, as well as continuing information on resources used in and actions taken to implement programs.

The primary reason for program budgeting is that it provides a systematic method to institutionalize analysis in the executive branch decision-making process for planning and allocating resources.⁸ Allocation problems arise because of scarcity in available resources coupled with surplus demands. PPBS is designed to open up debate on the questions of satisfying needed demands and to put the discussion of these questions on a rational basis.

Among other reasons for program budgeting are recognition of costs in planning, a sound basis for selecting feasible alternatives and a recognition of the efficiency of doing the right thing and that thing only. Given that costs are a parameter in reaching objectives, the organizational objectives can be restructured or reordered, if resources do not permit reaching all goals. Likewise, program budgeting aims at the decision-making process; that is, top-level determination of what to do, how much to do and when to do it, rather than deciding on how to carry on day-to-day operations, decisions best made by hands-on personnel. It recognizes the waste or inefficiency of performing low priority tasks as opposed to performing only the high-priority-high-payoff tasks only.

The General PPBS Approach

Traditional budgeting is aimed at efficiency in carrying out specific tasks. It is an appropriation rather than a policy making approach. Program budgeting is aimed at larger purposes, namely, the objectives of an organization. There are three general areas of administrative activities involved in carrying out the major objectives of program budgeting. These are program format, analysis and informational reporting.

Program format concerns the organization's objectives and the programs established to meet them. It begins with an effort to identify and define objectives and to group the organization's activities into programs that can be related to each objective. This method allows one to look at what is produced (output) in addition to how it is produced and specific inputs consumed. This conforms with the purpose of program budgeting which is to identify and understand relationships and interdependencies. Therefore, organization gives way to program and line item detail is aggregated into summary figures more appropriate to policy-making decisions. Program structures rarely conform to the appropriation pattern or to the organizational structure but are interrelated through the program/organizational objectives matrix.

The second area of the general program budgeting approach is analysis. The program budgeting method of decision-making assumes a system analysis capability with

which the resource and cost implications of program alternatives and expected outputs may be estimated, evaluated and compared. Both the resource-cost side and the benefit-effectiveness side of program consequences are analyzed. Quantification is sought whenever possible; however, many matters do not lend themselves to quantitative measurement, and qualitative analysis is required. Regardless to the nature of the analysis, management expertise is needed to explicitly identify the problem, determine alternate ways of resolving it, and attempt to measure the cost and effectiveness of each possibility.

Information and reporting is the third area of program budgeting. Neither new accounting nor new statistical reporting system are required, since the accounting and related statistical reporting systems identify information for all activities of the organization. Instead, reidentification or restructuring in the existing systems is required for utilization of information in the planning and programming parts of the new activity. When program determinations are made, usually only periodic reporting of existing systems is required on the use of resources and the operational steps taken in the implementation of the programs.

Planning, Programming, Budgeting System in DOD

Planning, Programming, Budgeting System was first implemented in the Department of Defense (DOD) in 1964. PPBS was to introduce a rational comprehensive approach to the

allocation of finite resources. It incorporated four main characteristics:

1. Specification of objectives, focusing on goals rather than expenditures.
2. Specification of alternative means of achieving objectives.
3. Analysis of costs and benefits of alternative means.
4. Systematic use of analysis, including future year costs projections.⁹

Many actions take place before the actual formalities of the PPBS began. Within DOD, the actual PPBS schedule for a given fiscal year extends over twenty months, from the issuance of the Joint Strategic Operations Plan, Volume I in May to the submission of the President's budget in January, almost two years later. The JSOP is in two volumes: Volume I Military Strategy and Force Planning Guidance (submitted in May, 20 months prior to the President's budget) and Volume II Analysis and Force Tabulation (submitted in February, eleven months prior to the President's budget submittal). However, for this study, the twelve months preceding the submission of the President's budget (JSOP II submittal) is the period of interest, which covers the pertinent DOD actions.

Each service department in DOD is required to develop and update their input to the DOD Five Year Defense Program (FYDP), which forms the basis for the entire PPBS, and constitutes the cohesiveness that insures the services programs

maintain continuity and direction.¹⁰ After the President's budget goes to Congress, the services began activity on the next budget cycle and adjust their five year plan and budget, starting with the preparation of the Program Objective Memorandum (POM) to maximize program continuity. Particular sensitivity is given to socio-political trends which force each service to do as much planning and budgeting in the shortest possible time period to avoid the liabilities of a rapidly changing political environment.

The optimal time to update service plans appears to be the ten months which begin with DOD's issuance of the Planning and Programming Guidance Memorandum (PPGM) in March by the Secretary of Defense. The PPGM prescribes the material planning, force planning and broad fiscal constraints. This begins the countdown from the PPBS as executed within DOD.

There are four major events within DOD associated with PPBS from February with the issuance of JSOP II and the PPGM in March. The first activity is the preparation and submission of a POM by each service to DOD. The PPGM, JSOP II and other planning guidance documents are used by each service to update their five year plan. Emphasis is on programming available resources from February through April. Such items as the number of Air Force wings or total research and development funding levels are incorporated at this time. This period is extremely dynamic and

it is rare that more than two weeks go by without changes in the service plans.

The second major event in the PPBS cycle, the Program Decision Memorandum (PDM), is initiated when the services submit their POMs in May. A tentative version of the PDM is issued in July and the services can appeal or rebutt any or all portions, if warranted. The purpose of the PDM is to announce DOD directed changes to the service POMs. The interplay between the POMs, PDMs and the next major PPBS event, the Budget Estimate Submission is considered to be a fine tuning process by the Secretary of Defense, Joint Chief of Staff (JCS) and the Service Secretaries relative to major force issues.

The Budget Estimate Submission (BES) to the Secretary of Defense is done in September. It occurs after the Amended Program Decision Memorandum (APDM) is released and the services have repriced the POM, as amended using the latest escalation indices. Since nothing new is usually introduced in the BES except repricing, the BES is usually of a brief duration. The BES is submitted to DOD for final approval around 1 October with the DOD Comptroller being the approval authority.

With the Comptroller's review, DOD budgeting begins and initiates the Program/Budget Decisions (PBD) between mid-October and December this being the fourth PPBS cycle major event. The Comptroller and DDR&E who are the primary

DOD offices involved in budgeting approvals. This budgetary submission is the one that the Secretary of Defense is prepared to defend through the Office of Management and Budget (OMB) to the Congress for appropriation.

The preceding has been a telescoped view of the PPBS process in DOD. However, it is of interest to this paper to review the Air Force's process of putting their budget together. The DOD "Call for Estimates" to each service initiates the Budget Call to identify approved programs in the five year plan for review and evaluation. The Budget Call transitions down to the first level managers.

The guidance and planning/programming documentation referenced in the DOD PPBS cycle is used by all levels of management with varying degrees of supplemental guidance issued by MAJCOMs (Major Commands). Justification, impact and alternate funding levels statements are parts of the estimates package that are consolidated, reviewed and adjusted at various levels in MAJCOMs and finally at Air Staff before submittal to the Air Force Council, Chief of Staff and finally the Secretary of the Air Force, who delivers the package to the Secretary of Defense.

PPBS in Other Government Agencies

Based on the apparent success of PPBS in the DOD, President Johnson by directive instituted PPBS in twenty-six Federal agencies and in a news conference on 25 August 1965 said:

This morning I have concluded a breakfast meeting with the Cabinet and with the heads of Federal agencies, and I am asking each of them to immediately begin to introduce a very new and revolutionary system of planning and programming and budgeting throughout the vast Federal government. . . .¹¹

A. Wildavsky points out that favorable conditions for the limited use of program budgeting in the Department of Defense did not exist in most domestic agencies.¹² There were no large groups of talented policy analyst experts in agency problems outside the Federal government. Therefore, there was not a pool of talent that was available to the agencies and this somewhat doomed the effort from the start. Some agencies tried vigorously to make PPBS a success including the Department of Agriculture, Health, Education and Welfare and the Office of Economic Opportunity. The Nixon administration starting with the 1969 budget had different emphasis and interests and cut the number of Major Program Issues by approximately 80 percent from 400 to 75. The Federal civilian agencies in June 1971 were advised that multiyear program and financing plans were no longer required.¹³ This effectively ended PPBS in the Federal civilian agencies.

There was limited success of PBB in the aforementioned agencies, Agriculture, HEW and OEO, which Harper and two colleagues attribute to the characteristics of the agencies and perhaps provide indicators or lessons for use of future budgeting concepts. They are:

1. An adequate number of well qualified analysts.
2. Linkage between the budget staff and decision makers.
3. Top management support of analysis.
4. Agency head support and positive attitudes that PPB benefits the organization.¹⁴

PPBS in Industry

In industry, management tools of the program budgeting type were developed first by DuPont around the time of World War I and in General Motors in the early 1930's. Ford Motor Company, upon encountering financial problems following World War II, hired several executives from General Motors who had expertise in the General Motors management methods. Ford also hired a group of ex-Air Force officers known as the "Whiz Kids," two of whom were Robert McNamara and C. B. (Tex) Thornton.¹⁵ More recent experiences have been program budgeting used by General Electric and the John Hancock Mutual Life Insurance Company.

PPB in Other Governments

Planned Program Budgeting has been used by both state and local governments in this country in Pennsylvania, Vermont, Hawaii and New York City.

Internationally, program budgeting has been used with some limited success by Belgium, Canada, England, France, Ireland and Japan. Most of these governments suffered similar

drawbacks to the Federal civilian agencies, primarily due to the lack of adequate analysts.

Summary

Planning, Programming, Budgeting certainly seems to have generated more critics than supporters. If Aaron Wildavsky is to be believed, PPB was doomed from the start and will always be a failure. His tongue in cheek comments on the subject are:

Another furious effort takes place . . . Incredible amounts of overtime are put in. Ultimately, under severe time pressure, even more data is accumulated. No one will be able to say that agency personnel did not try hard. The new presentation makes a little more sense to some people and a little less to others. It just does not hang together as a presentation of agency policies. There are more encouraging words from the Budget Bureau and another sermon about specifying alternative ways . . .¹⁶

Although PPBS has passed from the government scene, Wildavsky's comments are somewhat close to the actual picture of PPBS as it occurred in DOD due primarily to the sequential schedule of events, wherein the majority of activity was required during the last half year of the cycle. Also among the critics is Peter A. Phyrr, the originator of Zero-Base Budgeting, who offers the following deficiencies of PPB as a planning budgeting decision-making tool:

1. It focuses on what will be done, but not how to do it.

2. It bases cost calculations on decisions made during the planning and programming steps, excluding the policy decisions and alternatives to be considered during formal budget preparation.
3. It does not provide an operating tool for line manager direction or in implementing policy and program decision.
4. It does not provide for examining the impacts of different funding levels of programs elements, nor does it provide priority rankings of various programs or program effort levels.
5. It is aimed primarily at new programs and/or major program increases, ignoring continued elevation of the existing programs that constitute the major portion of budgets.¹⁷

Fortunately, there are some PPBS advocates who disagree with the above critics and add some degree of soundness to the discussion. One source, while having some reservations about the process, states that PPBS has been beneficial for the following reasons:

1. Helpful in defining program objectives.
2. Instrumental in disseminating quality.
3. Providing legitimate information from which decisions could be made.
4. Recognizing the legitimacy and necessity of analytical arguments.¹⁸

One author argues that PPBS appears to have introduced the analytical problem-solving approach into the specification of objectives, even though the outcomes seem to be merely validating present programs. He also notes that presenting data in a program format appears to have produced a feeling of confidence and Congressional satisfaction that they and the public will more clearly understand the outcome of defense resource allocation.¹⁹ In support of PPBS, Secretary of Defense Brown notes in a recent public statement: "Defense will be able to call from our PPB (Planning, Programming and Budgeting) System the basic data that will be required." (for Zero-Base Budgeting)."²⁰

The purpose herein is not to evaluate whether or not PPBS was successful in the public, private or international sector, but to present the transpired events in an even handed manner. Secretary Brown summed up the real purpose for presenting these data, which is to provide information, pro and con, that can be helpful to others in budgetary processes and decision making. Lessons can be learned from both positive and negative results.²¹

Chapter II Endnotes

¹Robert D. Lee and Ronald W. Johnson, Public Budgeting Systems (Chicago: Markham Publishing Co., 1972), p. 115.

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³Robert H. Haveman and Julius Margolis, eds., Public Expenditures and Policy Analysis (Pacific Palisades: Goodyear Publishing Co., 1971), p. 88.

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⁵David Novick, ed., Current Practice in Program Budgeting: Analysis and Case Studies (New York: Crone Russak, 1973), p. 212.

⁶Bertram Gross, "The New Systems Budgeting," Public Administration Review (March/April 1969): 101.

⁷Idem, Novick, pp. 5-7.

⁸Thomas D. Lynch, Public Budgeting in America (Englewood Cliffs: Prentice-Hall, Inc., 1979), p. 31.

⁹Lance T. LeLoup, Budgetary Politics (Brunswick: Kings Court Press, 1977), p. 230.

¹⁰The Air Force Budget, Hq. USAF/ACM, March 1977, pp. 7-15.

¹¹President L. B. Johnson, Presidential News Conference, 25 August 1965, p. 1.

¹²Aaron Wildavsky, "The Practical Consequences of the Theoretical Study of Defense Policy," Public Administration Review 25 (March 1965): 95.

¹³Allen Schick, "A Death in the Bureaucracy: The Demise of Federal PPB," Public Administration Review (March/April 1973): 145.

¹⁴E. L. Harper and F. A. Kramer, et al., "Implementation and use of PPB in Sixteen Federal Agencies," Public Administration Review (November/December 1969): 625.

¹⁵Analysis for Planning Programming Budgeting (Potomac: WORC, 1968), p. 58.

¹⁶Idem, Wildavsky, p. 99.

¹⁷Peter A. Phyr, Zero-Base Budgeting: A Practical Management Tool for Evaluating Expenses (New York: Wiley, 1973), p. 152.

¹⁸Idem, Haveman, p. 210.

¹⁹Idem, Novick, p. 280.

²⁰Secretary of Defense Brown. Air Force Times (10 January 1978): 1.

²¹Ibid., p. 1.

CHAPTER III

MANAGEMENT BY OBJECTIVES IN THE AIR FORCE

Introduction

Management by Objectives (MBO) is a management technique that sets out specific objectives and require regular periodic reports on progress toward achieving those objectives. This concept was introduced to most of the major Federal government agencies, including the Department of Defense (DOD), in early 1973 as a means of improving organizational performance and overall executive control.¹

However, there were unexpected administrative (President) changes in 1974 and in 1976 which subsequently prevented MBO in the government from reaching full maturity. There is evidence that some of the features of MBO were dynamically productive and are being used in pseudo unofficial formats under a different budgeting/management concept.

The purpose of this chapter is to examine why MBO failed in the government and evaluate why certain of its features are retained in some Air Force laboratories. The study includes research of lessons learned from MBO in business and the government. Explored are some conclusions on why MBO failed in DOD, how and why it can succeed in other levels of government, and some MBO features that are retained in some government organizations.

There are some assumptions and limitations that apply. Since this chapter encompasses primarily research of printed materials, government and public, one assumption made is that published accounts and assessments referenced are factual in context. The obvious limitation is that secondary research (printed documentation) does not provide feedback reactions; however, the interview in Chapter V does provide some feedback. The government material researched may be somewhat slanted toward MBO's positive aspects, since it appeared to have gained more success in DOD than in other government agencies. However, outside sources were reviewed to get overall balance in the evaluations.

The significance of this chapter is that any insights gained from hindsight of MBO may be useful by others in improving the effectiveness of current or future management or planning concepts.

Management Needs of the Air Force

The Air Force, as well as other government organizations, is constantly striving to improve the effectiveness and efficiency of its management and leadership. The Department of Defense services are made up of a mixture of organizational makeups of pure military, pure civilian and a mix of the two types of personnel. Therefore, the services including the Air Force, are concerned with reaching mission objectives that may require multi-faceted motivation and leadership factors applicable to the dual personnel structure.

In the early 1970's the Air Force formed the Air Force Management Improvement Group to address people interactions and how they fit the future needs. The emphasis of this group was on management leadership and organizational communications.² The group found in initial surveys that a majority of the personnel rated their work highly important but a significant percentage were dissatisfied with their jobs. In a graduated survey, about half had a positive view of their management/leadership; however, over 65 percent had only an average opinion of management's capabilities and performance. Organizational communication within and between organizations was identified as a problem by over 80 percent of personnel in a 1976 survey.³

Margulies and Raia perhaps addressed the foregoing problems in the Air Force and other organizations by noting that "The bureaucracy is becoming less and less effective, . . . it is hopelessly out of joint with reality . . ."⁴ While this assessment may be prophetically true, the surveys conducted by the Air Force indicate that they recognized the need for managerial improvements and were taking steps to alleviate problems.

MBO Background

Although relatively new to the public domain in the early 1970's, the management concept known as Management by Objectives was modified into its present format by Peter Drucker some twenty years before. Drucker indicated that

objectives would serve as the vehicle for administering and directing a systems approach to managing an organization.⁵

He further notes that MBO enables the substitution of management by self control for management by domination.

Odiorne, in a more pragmatic sense, indicates that MBO is a process whereby the manager and his subordinates jointly identify the common goals of the organization; define the employee's major areas of responsibility in terms of results expected from him; develop and write a plan to accomplish those results; set and agree on measurement criteria; measure results at later checkpoints; evaluate the completed performance; and then adjust future performance to contribute effectively to corporate effort.⁶

MBO had existed for a number of years in the private business domain and had received widespread acclaim prior to its application by the Federal government in 1973. It has been used in both loose and strict terms and the precise extent of prior MBO applications cannot be measured. Almost half of the largest businesses in the U.S. indicate that they have applied MBO in some fashion.

Various adaptations of the MBO approach had been and are being tried in different levels of the public sector. It has appeared in hospitals, the health care field, religious organizations, education systems and service organizations. By 1973, indications were that MBO had spread to other parts of the world including Canada, England and Japan.

It was evident then and more so now that MBO was widely perceived as an effective system that is increasingly being applied in business, government and other non-profit organizations.

MBO has been associated with many activities that seemingly relate little to the Drucker description. While using objectives to guide the way to goals, MBO is not a panacea to success as noted by one author. He notes further that the management leadership and personal relationships stressed in the MBO philosophy are extremely important to an effective and efficient organization.⁷

MBO Description

Management by Objectives replaced a budgeting/ planning concept known as Planning, Programming and Budgeting System (PPBS). The PPB System was aimed at developing alternatives toward specific objectives. As such, MBO actually retained two features of PPBS which were: the specification of goals and objectives, and the comparison of project benefits with the costs. A third characteristic added to MBO was the requirement to compare actual achievements with operational plans, which was intended to shift emphasis from planning future events toward evaluating current efforts.⁸

One of MBO's chief merits is that its key elements are understandable to most managers and employees. The formal requirements were less rigid than PPB and there were

no standardized forms. Budgeting was not rigid in format and could be decentralized by choice. However, while the surface mechanics of MBO appear simple, the concepts and processes that make it an effective management approach are complex and require sustained, intense effort for application. The three major operational goals of MBO were:

1. To identify clearly reasonable objectives.
2. To monitor progress toward objectives that had been agreed on by both managers and policy-makers.
3. To effectively evaluate results.⁹

MBO placed specific requirements on the agencies, some of which were familiar from earlier budgeting concepts. The key elements of MBO as described by one expert are:

1. Setting goals, objectives and priorities in terms of results to be accomplished in a given time.
2. Developing plans for accomplishment of results.
3. Allocating resources (manpower, money, plant and equipment) in terms of established goals, objectives and priorities.
4. Involving people in implementation of plans, with emphasis on communications for responsiveness and on broad sharing in goals and objectives.
5. Tracking or monitoring progress toward goals and objectives, with specific intermediate milestones.
6. Evaluating results in terms of effectiveness, efficiency and economy.

7. Generating and implementing improvements in objectives and results increasing productivity through improved technology, better utilization of people, etc.).¹⁰

The distinguishing characteristics of these elements on process are the emphasis on results, on achieving objectives, on participation, and on personal commitment of each manager to perform in a manner that directly contributes to the achievements of organizational objectives.

MBO in Business

Indications are that MBO was not very successful in the business sector. Surveys conducted in 1974 and later somewhat contradicted earlier survey results in that only about 30 percent of the major companies in American actually implemented MBO.¹¹ Among the causes for lack of success of MBO in improving business management are:

1. The failure to integrate MBO into planning.
Many attempts have been made to generate an MBO program outside of the management system.
2. The tendency to implement MBO as a methodical series of administrative actions without feedback to relate results to the system.
3. The failure to include human factors and organizational climate.
4. The resistance to change the bureaucratic style of management to allow new ideas and methods.

5. The absence of MBO training at all levels.¹²

The advertised success of MBO in business appears to be less than favorable. One factor in this evaluation is that the disagreement on what MBO really is could have significant bearing on these results. The implementation of MBO was affected by the failure of organizations to define and know what a real Drucker-type philosophy requires. Behavioral change within bureaucracy is inevitable with MBO and this change, if handled poorly, can result in the failure of the system before it gets underway. Training and learning are mandatory because of the need for effective interpersonal relationships in MBO practice. Top management must get involved and invest training time, if it expects to benefit from the MBO program.¹³

MBO in Government

Management by Objectives was introduced in the Federal government by the President in 1973, and was implemented by the Office of Management and Budget (OMB) through a memorandum to Department and Agency heads. This OMB memorandum outlined MBO's role in the Presidential Management Initiative and the process for implementing it. Heads of all agencies were directed to provide lists of objectives.¹⁴ Within five months of the presidential announcement, the White House received 237 objectives. However, the request for objectives by OMB welcomed any type of objectives as long as it met three broad categories: "The issue is important to

the President, there is a means for determining if it can be achieved, and no additional financial or legislative resources would be required."¹⁵

Most of the objectives were concerned with immediate or organizational matters which made the process a bottom-up catalogue of bureau chief concerns.¹⁶ OMB also set up a system of meetings to discuss MBO. A three-step sequence of events was established within OMB: (1) Quarterly monitoring sessions would be held with agency heads and the OMB director (put pressure to improve direction of the agency). (2) Internal Management conferences would be held to prepare for agency-OMB conferences. (3) The program manager responsible was expected to pass milestones required to attain objectives prior to program reviews at departmental management conferences. This sequence was established to prevent criticism by MBO program monitors, but soon even this sequence lost the interest of the people.¹⁷

Within months after its inception, MBO began to run into trouble. It started at the top by frequent cancellations of the periodic meetings between directors and agency heads. Agency heads, responding to the cue from OMB, cancelled their internal management conferences. It appeared that program managers had no incentive to encourage management procedures that would strengthen the hierarchy over them. MBO interest was strongest in OMB, the Federal overseer, but it met with mixed success in other Federal agencies.

MBO within the Department of Defense (DOD) was not to replace the mature Planning, Programming and Budgeting System (PPBS) as a new management system, but was designed to complement it. The intent was to provide a results oriented approach to the DOD and did not advertise itself as the strict Drucker-type MBO system. As such, the DOD's MBO program was considered fairly successful although this opinion is not universally acclaimed. More will be said about MBO and the Air Force's experiences in a later section.

The Department of Health, Education and Welfare (HEW) actually introduced a form of MBO in 1969 but was called the operational planning system (OPS). However, it never became a uniform process of managing and was not considered to be successful.

The majority opinion indicates that the Drucker-type MBO management philosophy was not really implemented in the Federal system, and the concept used was not a total failure but was not really a success.¹⁸ In some cases elements were taken from the MBO philosophy and in other cases results oriented face-to-face meetings were held; however, it appears that very little was done to get the program instituted down through the organization to all the people. It appeared that MBO was used in most instances as a control over mismanaged agencies, rather than as an operational management concept. Therefore, it did little to improve effectiveness. Some of the stated reasons for MBO's failure or

lack of success in the government parallel some of those found in business and include the following:

1. Administration (President) changes in 1974 and 1976 with different priorities and emphasis.
2. MBO was treated as a paperwork system rather than a face-to-face, interpersonal, management system.
3. Lack of rewards and incentives. MBO tended to emphasize subordinate's personal objectives which were resisted by top management (no management incentive).
4. Government is big, complex and impersonal, which ignores some of MBO's features for interpersonal relationships.
5. Lack of training for management or subordinates.¹⁹

MBO Process in the Department of Defense

Prior to examining the Air Force experience, it appears prudent to examine the process of MBO within the Department of Defense. MBO's affect on the FY74 budget was minimal, since it was introduced in the middle of the FY74 budget cycle in 1973. The Office of Secretary of Defense, because the fiscal year budget preparation was already underway, made up a "strawman" initial list of MBO objectives that was distributed to the services for comment. Since the time was short, the "strawman" list was essentially a compilation of programs already underway, and the final list was not approved until January, six months after the start of the

fiscal year. For FY 1975, because of the overrun of the FY 1974 budget preparation cycle, a "strawman" objectives list was again developed by OSD that did include a minimum of new initiatives. The FY 1965 budget cycle was the first opportunity for OSD to fully develop the objectives in cooperation with the services. This allowed for mutually agreed upon objectives, as well as actions and milestones for accomplishment of the objectives.

After a plan to accomplish both objective and action had been formulated by the responsible office for the action, the final list of objectives and milestones was again coordinated through the agencies for comment. The final package was approved by staffing and Assistant Secretary of Defense. The objectives and actions of "Presidential Interest" were sent to OMB and ultimately to the President, if warranted. All other objectives were kept in the Department as Departmental Objectives.²⁰

The systematic tracking or monitoring of progress was the next step in the DOD process. This step was essentially a continuation of the objective setting phase, but became a more detailed work plan for accomplishing the objectives and the actions in support of those objectives. The Assistant Secretaries were assigned this responsibility for tracking the majority of the objectives under their domain.

The final step of the MBO process involved the periodic review of accomplishments and evaluating results

in terms of effectiveness, efficiency and economy. The milestones developed in step two were used for this review and evaluation. As milestones were accomplished, they were noted in the MBO books maintained in OSD. Through coordination with OSD and the appropriate Air Staff Offices of Primary Responsibility (OPR), the Office of the Comptroller of the Air Force publishes status information on those actions assigned to the Air Force in the Management Summary Report.²¹

Following approval of the objectives, the Deputy Secretary of Defense was briefed each month on those actions that were falling behind and those actions that were noteworthy by their success. If it appeared that an action was not going to be completed, methods of correcting the deficiency were suggested. Quarterly, a management conference was held with OMB to review the status of the MBO objectives in DOD.

Air Force's Role in MBO

Although the Assistant Secretaries of Defense had overall responsibility for the accomplishment of the majority of the MBO objectives, the individual services had an active role in the program. In the Air Force, the Air Staff had the operational responsibility for implementing the MBO program. Staff was responsible for the formulation of objectives and milestones and for coordination with the appropriate organizations. The Air Staff Office of Primary Responsibility (OPR) was also responsible for meeting milestone schedules and

for providing reports for transmittal through Secretary of the Air Force channels to OSD.²²

The OPRs were also required to provide milestone status information to the Comptroller of the Air Force for those actions specifically assigned to the Air Force by OSD. As noted above, the OPRs were given the responsibility for publishing milestone status information in the Management Summary Report for OMB actions assigned to the Air Force. The report also listed Air Staff OPRs for MBO objectives and actions which were not specifically assigned to the Air Staff, but were of direct interest to the Air Force.²³ OSD guidance was to keep the program informal and to resist developing a separate, highly structured MBO reporting system.

Starting with the FY74 program, OSD worked with the service staffs to develop objectives that covered the total Department of Defense. There were twelve objectives with forty-nine specific actions and around 85 separate elements supporting these objectives. Most of the elements were assigned within OSD with 12 being assigned to the individual services, six of which were assigned to the Air Force. In FY75, OSD followed the same procedure. However, for FY76, two changes were implemented which required that additional emphasis be placed on MBO planning. The changes were: (1) the services were required to initiate the statements of objectives and actions, and (2) for the first time, MBO was time phased with the previously formulated Planning, Programming, Budgeting System cycle.

Following the Air Force submittal of the FY76 programs to OSD, proposed actions were reviewed and many of them were approved in various programming documents. Each approved action was accompanied by a statement which indicated the resources tentatively earmarked in the budget for accomplishing the action. The following five subject areas were approved for Air Staff responsibility.

1. Increase the capability of the U.S. Strategic and General Purpose Forces.
2. Achieve the Total Policy in relation to both U.S. Reserve and National Guard Forces and U.S. allies.
3. Increase the efficiency of the Department of Defense.
4. Develop/procure the F-15 within cost/performance thresholds.
5. Test operational launch of minuteman.²⁴

As can be seen, some of the subject areas were very broad in scope but were developed to be consistent with overall DOD mission objectives.

Problems in Air Force Implementation of MBO

The overall Air Force attempt at improved management was labeled Management by Objectives. However, as pointed out earlier in other government experiences, this implementation process did not follow a Drucker's type philosophy. In most cases the program was forced down from the top with

regulations and manuals. The goals appeared to have been to establish an administrative network, to suspense paperwork, and to assign responsibilities for the system. Instead of using MBO to increase effectiveness and efficiency, the stress was toward implementation of the program.²⁵ Another improper use of MBO in the Air Force was as a means of control.²⁶ MBO as a means of managerial control was also attempted in other organizations but with results similar to those in the Air Force. Personnel, realizing the control aspect, merely submitted objectives that were difficult to measure or were easy to obtain, thereby effectively undermining the system.

In order for any management concept to be successful, it must have top level support. MBO requires some decentralization of functions and delegating subordinate units autonomy to manage most areas. Indications are that the Air Force top levels did not make the behavioral changes necessary for this type action. There was an apparent reluctance to allow subordinate units to make decisions that they were capable of making, thereby resulting in lowered morale and perhaps distrust by the subordinates.²⁷

Two other areas of friction in the Air Force's implementation of MBO were communications and training. The communication problem was evident in two patterns. First, there was a scarcity of information on the who, what, when and where of MBO except that deadlines and suspenses were to be

met. This created a lack of assurance which was compounded by inadequate feedback from the top echelons. The absence of quantitative measurements hindered evaluation of progress toward set goals and perhaps led to frequent reevaluation of progress or continuously implying that lower echelons never reached the goals or objectives. Likewise, training for both the upper and lower level personnel (military and civilian) would have improved the probability of MBO succeeding in the Air Force. The Air Force, like other DOD organizations, should have had the expertise and analytical capability developed from the prior use of PPBS to make a success of MBO. However, the total intent and purposes of MBO differed from PPBS and the failure to sufficiently explain this and subsequently train personnel perhaps contributed to its lack of complete success.²⁸

Summary

Management by Objectives is a process whereby organizational goals and objectives are set through the participation of organizational members in terms of results expected. It was introduced to the Federal government in 1973 as a replacement for the Planning, Programming Budgeting System as a means of incorporating strong controls into program planning. It was felt that the development of clear goals, particularly goals that can be achieved, would have a strong positive effect on motivating individuals, if they participate in setting these goals and objectives.

MBO as a concept was developed in the early 1950's by Peter Drucker as a system approach to managing an organization. Since that time, it has been implemented in both the private and public sectors with mixed success, primarily because the MBO concept attempted was not the Drucker type philosophy.²⁹ Most of the researched sources such as McCurdy, West, McConkey and Brady tend to agree with LeLoup that MBO has been less than successful. In assessing the basic reasons for MBO failure in business, government and the Air Force, four of the common reasons were generally:

1. The lack of training at all hierarchial levels.
2. Communication blockages and lack of feedback.
3. Bureaucratic resistance to change for participatory management.
4. Implementation as a paperwork system rather than a management system.

It can be said with some degree of certainty that the prime reason for the demise of MBO in the government was the administration (President) changes in 1974 and 1976 with subsequent reorientation of priorities and emphasis. MBO as a concept remains viable and two features of the MBO technique, goal setting and quantitative progress evaluation, were retained in the government system and are included in Zero-Base Budgeting, which was implemented in 1977.

The Management by Objectives concept is being used in some Air Force organizations as a job performance eval-

uation tool. The participatory management concept is utilized wherein the managers and subordinates cooperate in setting up goals, objectives and quantitative achievement standards for evaluating performance levels. As Levinson notes in the article, "Management by Whose Objectives?", the relative success of participatory cooperation of management and employees in performance evaluation criteria development vindicates the principles and viability of the MBO concept as originally conceived.³⁰

Finally, the majority of opinions indicate that the lack of success of Management by Objectives was not due to defects in the concept, but was impacted by the implementation philosophies employed in both the public and private sectors. It also appears that MBO is a very rational concept, but its difficulties both in and out of the government have been primarily due to communication blockages. That is, the evidence indicates that the MBO concept was never fully defined to all levels of personnel and the upper hierarchy never really decided on a single perception of MBO as either a management control concept (as defined by Drucker) or as a budgeting concept.

Chapter III Endnotes

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⁹Rodney H. Brady, "MBO Goes to Work in the Public Sector," Harvard Business Review (March-April 1973): 82.

¹⁰Howard E. McCurdy, Public Administration: A Synthesis (Menlo Park: Cummings Publishing, 1977), p. 126.

¹¹George E. West, "Bureaupathology and the Failure of MBO," Human Resource Management (Summer 1977): 33.

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¹³*Idem*, LeLoup, p. 103.

¹⁴Roy L. Ash, Memorandum for Honorable Elliott L. Richardson, Secretary of Defense, Washington, 19 April 1973, p. 2.

¹⁵Thomas S. McFee, "The Management Conference: Key to HEW-MBO System," The Bureaucrat 2:4 (1974): 20.

¹⁶U.S.A.F. Management Summary, June 1974, PP.MBO-1-14.

¹⁷Idem, West, p. 33.

¹⁸Idem, West, p. 34.

¹⁹Idem, McCurdy, p. 110.

²⁰U.S.A.F. Management Summary, "MBO," June 1975, PP.MBO-1-14.

²¹Ibid., p. 1.

²²Ibid., p. 1.

²³Ibid., p. 4.

²⁴Ibid., p. 8.

²⁵Idem, West, p. 34.

²⁶Dale McConkey, MBO for Nonprofit Organizations (New York: AMACOM, 1975) p. 110.

²⁷Idem, West, p. 35.

²⁸Idem, West, p. 36.

²⁹Idem, LeLoup, p. 115.

³⁰Harry Levinson, "Management by Whose Objectives?", Harvard Business Review 48:4 (1970): 62.

CHAPTER IV

ZERO-BASE BUDGETING AND SUNSET LEGISLATION

Introduction

President Carter introduced a new type of budgeting to the Federal government, Zero-Base Budgeting (ZBB). Having used this concept while Governor of Georgia, the author believes that Mr. Carter saw it as a means of responding to growing public pressures for more efficiency and less waste from government. ZBB is a management concept which requires that budgets be justified anew beginning at zero funding level, without regard to past history. ZBB was implemented in all Federal agencies including the Department of Defense (DOD) in 1977 and has been used in the planning, preparation and processing of the 1979 and 1980 budgets. ZBB has also been used with varying amounts of success in private industry and state governments. In addition to ZBB, Congress has reviewed new legislation known as "Sunset Laws," which would authorize Congress to effectively "Zero-Base" all Federal programs at set intervals by simply not reauthorizing the programs.

It should be noted that ZBB or Sunset only affects about 25 percent of the Federal budget, since approximately 75 percent of the Federal budget includes permanent appro-

priations or outlays such as social security, veteran's benefits, retirement and interest on the debt that would be unaffected by either of these processes.

The overall objective of this study is to use the backdrop of experiences gained to provide insights that will enhance the implementation of ZBB in DOD with emphasis on the middle management level. A two-pronged approach is pursued. First, will be an examination of past experiences and lessons learned from prior applications of ZBB and other budgeting concepts to glean insights to enhance ZBB's implementation in DOD. Secondly, the implications of Sunset Laws on ZBB is explored to determine possible affects on the Federal budgeting process. Sunset legislation as proposed in the past two Congresses (94th and 95th) have program or agency termination review provisions that may impact DOD and Air Force management. That is, the Sunset review may require information or documentation that is very similar or identical to the present ZBB documentation.

Zero-Base Budgeting

Zero-Base Budgeting is a management technique that has been applied to both private business and government agencies. Its intended purpose is to assist in financial decision-making and the concept has the potential of providing comprehensive and meaningful budgetary analysis for tradeoffs.

The current literature credits Texas Instruments, Inc., with the assistance of Peter A. Phyrr in 1970, as being the first to implement ZBB in the private sector. Mr. Phyrr, in turn, credits Arthur F. Burns (Chairman of the Federal Reserve Board) for identifying the basic need for ZBB in a December 2, 1969 speech to the Tax Foundation:

Customarily the officials in charge of an established program have to justify only the increase which they seek above last year's appropriation. In other words, what they are already spending is usually accepted as necessary, without examination. Substantial savings could undoubtedly be realized if it were required that every agency . . . make a case for its entire appropriation request each year, just as if its program or programs were entirely new.¹

Although Phyrr is considered to be the "father of ZBB," it was actually implemented after a fashion in the Department of Agriculture in the early 1960's.² However, the concept did not gain national attention until Phyrr's article was published in a business periodical in 1970. Jimmy Carter, then Governor of Georgia, became aware of the article and, subsequently, had Peter Phyrr to assist in implementing the system in 1973. To date, ZBB in some form has been used by approximately 100 firms and about a dozen states, Georgia and Texas having implemented it on a full scale. Others include Illinois, New Mexico and the City of Honolulu.³

ZBB was developed to deal with the problem of limited resources and increased demand for those resources

in both the private and public sectors. There is a variety of opinions by economists and others on just what the purposes of ZBB are. Phyrre suggests its purpose as the effective allocation of scarce resources and speaks descriptively:

To effectively allocate limited resources,
a budget procedure must determine . . .

1. Where and how can we most effectively spend our money?
2. How much money should we spend?⁴

One source sees the objective of ZBB as another indication of the continual search for improved budgetary procedures.⁵ Stonich looks at the managerial implications and describes the system as "Zero-Base Planning and Budgeting, a framework within which all managers analyze their operations in terms of objectives, alternatives, performance measurements and incremental cost benefit."⁶

ZBB Description

Zero-Base Budgeting provides a systematic method for justifying and evaluating all operations and programs each time a budget is prepared. It enhances decision-making in times of limited resources, because it gives all levels of management more budgeting information and, thereby, increased control over resource allocation. The ZBB process also requires an in-depth knowledge of and participation in the budget procedures. Managers become more keenly aware of the detailed requirements of the agency. Attention is

focused on program cost and performance rather than changes from the previous budget. Priorities and changing emphasis bring management discretion and decision-making into the allocation of resources.

The ZBB emphasis on management discretion is focused at the unit or intermediate manager level who becomes somewhat of a kingpin, since he is solely responsible for his budget. The two basic steps in ZBB are developing "Decision Packages" and ranking them. The "Decision Unit" is a key input to the decision package and becomes the unit manager's contact with higher management. Therefore, an incomplete or inaccurate input could be detrimental to his program. These terms are defined in several documents, but the definitions as presented in OMB Bulletin 77-9 are used herein:

Alternatives - Different approaches to achieving an objective or providing a source.

Decision Unit - The lowest-level entities for which budgets are prepared. One requirement is that each decision unit have an identifiable manager with the necessary authority to establish priorities and prepare budgets for all activities within the decision unit. In the Air Force Systems Command the program element is the division unit.

Decision Package - A brief justification document that includes the information necessary for managers to make judgements on program or activity levels

and resource requirements. A coordinated presentation of budget estimates and program information, applied to the smallest program or organization for budgetary purposes. A decision package defines the probable costs, personnel requirements, program objectives and program impact of operating such organizational unit at a specified level of effort.

Decision Package Set - A series of decision packages which is prepared for each decision unit and cumulatively represents the total budget request for that unit.

Ranking - The process by which managers array program or activity levels in decreasing order of priority. This ranking process identifies the relative priority assigned to each decision package increment contained in the manager's budget request based on the benefits to be gained and the consequences of various spending levels.⁷

The Conceptual Process

The initial step in developing a Zero-Base Budget is identifying the objectives against which cost and benefits of alternatives are to be evaluated or measured. ZBB calls attention to the need for proper planning and provides the corresponding technical basis on which this planning can be developed. It requires that lower level managers specify

their goals in quantitative (insofar as possible) output terms and to describe the respective output contribution in terms of organizational goals. This information coupled with the alternatives gives all levels of management the same composite view of the benefits and consequences of funding programs at various levels from zero to an accelerated rate.

After the objectives and planning assumptions are established, the lower hierarchy begins the process of identifying alternative means of achieving the specified objectives. This involves separating all operations or activities into decision units. The decision unit is normally the traditional cost center budget unit or program over which this management level has discretion. After the decision unit is identified, the lower level management examines the current operation and alternative methods and levels for accomplishing the activities or program goals. Each documented alternative or decision package uses a standard format that outlines the following information:

1. Statement of Program and Goals - includes objective, description and identifies problems that a decision unit is to solve.
2. Alternative Courses of Action - different means as approaches to solving the problems.
3. Costs and Benefits - compares the cost of a program against quantifiable benefits.

4. Measure of Performance - if an old unit, how effective has it been in the past toward reaching goals? If new, what is projected effectiveness?
5. Consequences or Impact of not Operating Decision Unit - who/what would be hurt and how much, if unit is abolished?⁸

The documented decision package alternatives are considered to be the key to ZBB and the characteristic that differs from other budgeting concepts. Ideally, the goal is to provide higher management a series of choices and adequate relevant information upon which to make the choices. The decision package set contains three decision packages covering the minimum (reduced) level, current operating level and an accelerated level, the alternatives being the reduced and accelerated levels which are usually specified by the agency.⁹

After the manager completes decision packages for the current operation, decision packages are prepared for any new programs and priority rankings can be done. The initial ranking is done by the preparing manager and is submitted to the next management level. The ranking and consolidation for all departments continues through each level until the top level management prepares the final ranking for agency heads and eventual presentation to the President, in the case of Federal programs.

The decision packages and their projected costs are listed in priority sequence and the manager determines how many of the high priority activities can be funded within the expected budget for the year. In a mechanical sense, all decision packages that fall below the preset cut-off point would be dropped or deferred. However, the manager has some flexibility and there may be cases wherein certain activities that fall below the cut-off line but are considered essential or necessary for future year activities as seed or start up efforts. This requires trades between these essential efforts and efforts above the cut-off line. This problem is faced at all management levels, but it becomes more complicated for the successive higher management levels as the number of packages increases. There are suggestions that this problem can be minimized if each successive manager concentrates his efforts on the lower priority decision packages around the cut-off line.¹⁰

ZBB in DOD (Department of Defense)

President Carter fulfilled one of his campaign promises to implement Zero-Base Budgeting (ZBB) in the Federal government. He issued an order in February 1977 establishing ZBB in the Federal government with predictions that it would lead to reduced costs in the Federal system.¹¹

In an effort to get an orderly transition of a new concept, the President attempted to get wide participation of all levels involved in the concept formulation. He and

other executive officials met with Cabinet officials to explain the process and emphasize his commitment to this decision-making process. Officials of Federal agencies were given the opportunity to comment on the draft Office of Management and Budget (OMB) instructions, which was indicative of the joint participation of all parties in this new budgeting process. This close working relationship between all parties, perhaps, indicates that ZBB was not to be introduced in a vacuum with immediate resistance as some previous budgeting concepts encountered.

OMB's implementation strategy was for a decentralized concept, which appeared to be a wise approach. OMB Circular No. A-1 dated June 29, 1977, required that all Executive Departments and Federal establishments utilize Zero-Base Budgeting techniques in developing budgets.¹² Apparently, it was recognized that each Federal agency is different and, therefore no single budgetary approach was specified. However, the agencies were not left entirely on their own but guidelines were issued by OMB and the President.

In the Department of Defense (DOD), the Secretary of Defense provided information to all services immediately following the President's order issued in February 1977. The major thrust of this order was to be felt in the FY1978 and later budgets. Since the FY (Fiscal Year) 78 services budgets had already been incorporated into the President's 78 budget submitted to Congress, minimal impact was felt on that year's budget. Preliminary instructions were issued by

the services heads, late in the budget cycle to revised the FY78 budget to a Zero-Base Budgeting format, but did not require a complete change. The FY79 Service Budget Estimates was the first one prepared in the complete ZBB format.

Since the focus of this study is on Air Force R&D Laboratories, the remainder of this chapter will concentrate on this service. The Air Force management has acted to insure a smooth transition of the ZBB system by issuing a number of instructions describing the role of responsible individuals and formats for required submissions. The implementation of ZBB has required great changes in the current operations operating budget (OOB) cycle, in particular in the requirement to submit a budget estimate for the second fiscal year packaged with the OOB for the next fiscal year.

The budget cycle for DOD programs is explained and scoped in Chapter II and will not be repeated here, except to touch on how various inputs may be affected. In the Air Force and in particular the Air Force Systems Command (AFSC), the initial decision units and consolidated decision packages are prepared at the laboratory or systems division levels. The lowest decision unit is a program element (PE). The activity commander or laboratory commander together with staff will review, consolidate and rank the decision packages for the activity. The activity commander submits the consolidated packages to the next higher echelon where the review consolidation and ranking process will be repeated.

The process will continue until it results in submission to the MAJCOM (Major Command), which is AFSC in this particular case. The MAJCOM repeats the above process and prepares its submission for the Air Staff. At the Air Staff level, the MAJCOM submissions will be used as the basis for the program operations memorandum (POM) to DOD around May for the future year's budget (which begins 1 Oct. the next calendar year).

The success of this process is affected by two major factors, adequate planning-goals information and adequate interpretation and response to these goals. The Air Staff and MAJCOM share responsibility for transmission of appropriate planning and programming data to the lower echelons. Specifically, the PPGM (Planned Programming and Guidance Memorandum) as issued by the Secretary of Defense's office (See Chapter II) must be interpreted and translated by the Air Staff and MAJCOM for consumable format by middle and lower management (laboratories or activities). The higher echelons must insure that subordinate organizations are continually appraised of current information that affects them on a timely basis. For example, impact statements or alternative packages and subsequent rankings could be drastically affected by shifts in priorities or mission scenarios.

The activity chief or laboratory commander is responsible for the second factor of the overall process which is translating the provided programming data/information into

long-range goals and organizational objectives that are responsive to the PPGM constraints. This involves selecting possible alternatives for accomplishing the objectives and identifying the resources required to support selected alternatives. The sub-organization chief and staff offices are the key arms of the activity commander in accomplishing this task. Since the ZBB actually begins at the organizational level, a major, but sometimes overlooked, participant in the process is the activity/resource advisor or program element manager. In some cases, the program element manager may be at MAJCOM level; therefore, the laboratory or activity advisor may be manager of a portion of a program element and may be called the deputy program element manager (DPEM).

Since the DPEM is a key participant at the lower level, there should be close coordination and interfaces between the DPEM and activity or laboratory chief during the formulation of organizational goals and objectives and in the selection of alternate courses of action. The DPEM should be given the latitude to recommend new and better ways to achieve objectives. By being involved with all aspects of the planning data and processes, the DPEM will be better prepared to develop the multiple sets of decision packages required for prioritizing and ranking the required alternative funding levels.

One often overlooked element of the total ZBB process is feedback between levels of review in the budgeting cycle.

The specific criteria for evaluation and prioritization at the MAJCOM and higher echelons is traditionally not known at the lower management levels, thereby forcing these managers to feed their best and honest responses into essentially a blind tradeoff situation.

Lessons Learned from Zero-Base Budgeting

Zero-Base Budgeting is a management concept that can be applied to both private business and government organizations, primarily to enhance decision-making. ZBB is essentially a budget/planning technique which requires budget items to be justified anew beginning at a zero funding level, without regard to past history. This concept originated in the Federal government in the early 1960's, and was perfected by Peter A. Phyrre and applied in Texas Instruments in the early 1970's. ZBB was applied by industry, state and local governments and has been used by all Federal agencies since 1977. The prime instructions to these organizations were and are to review yearly all programs from the ground up and not in terms of incremental additions to prior budgets.

Since ZBB has been used for several years in the public and private domains as well as through the past three Federal budget cycles (FY79, 80 and 81), some of the lessons learned or opinions developed from its use would be helpful in its future use in the Department of Defense. The U.S.

Senate during the 95th Congressional Hearing on Sunset Laws also reviewed some pros and cons of ZBB that were formulated by experienced users over the past years. These guidelines or lessons learned were presented in the form of arguments for and against ZBB and are summarized herein:

1. Arguments for ZBB

- a. Impartiality of Review and Decisions - No exemptions would ensure that all programs, old and new, would be reviewed and evaluated from the ground (zero) up. Therefore, no sacred cows can escape review, analysis and critical judgement.
- b. Identification of Objectives - ZBB provides improved comprehensive and definitive information to higher management enabling them to make more informed judgements concerning programs as well as budget levels. It provides cost-benefit analyses of alternatives, thereby promoting the elimination of less efficient programs. ZBB includes identification of measurable objectives and forces a showing of what, if anything, had or can be accomplished by a program.
- c. Alternative Levels of Funding - By forcing program ranking, each level of funding has to be judged against the objectives for the

program and probable accomplishments at particular funding levels. It requires program managers and agency heads to come to grips with the effects of alternative levels of funding. ZBB can, if judiciously applied, aid in controlling the overall level of the budget.

- d. Ranking of Priorities - By providing rational criteria with the program/package rankings, middle management, agency heads, OMB, the President and Congress can intelligently determine which programs and what funding levels should have priority. This provides rationality and greater flexibility in the allocation of finite resources.
- e. Integration of Operational and Budget Decision-Making - The rationale of budget proposals can more truly reflect the real reasons for operational decisions, and operational decisions will not be divorced from budget consequences. ZBB forces all management levels to evaluate the cost effectiveness of old and new programs. ZBB also requires management to consider the budget consequences of their actions and proposals, more so now than previously, because programs rather than total dollar amounts are approved.

f. More Participation by Lower Management Levels -

Although the expenditure level was established by top management, the budget is built from the bottom up and requires lower echelon actions and participation.

g. Reduced Top Management Workload - Top management can minimize reviewing time by evaluating only packages at or near the margin (cut-off).

2. Arguments Against ZBB

a. Increase Workload - ZBB opponents say that management at all levels are involved and, since their time is already stretched thin, ZBB would cost so much in time and expense that costs would outweigh any benefits which would be obtained. The two prime reasons for work increases are the exorbitant amount of paperwork (decision forms/alternatives) and the requirement that all items be reviewed from scratch. The State of Georgia had almost 11,000 decision packages that required reviewing.

b. Uncertain Measurements of Results - Unfortunately, most Federal programs do not lend themselves to cost-benefit analyses as readily as overhead costs wherein industry has had the most success with ZBB. Since there are

no accurate ways to quantify cost-benefits in government programs, preparing evaluations may become a paper exercise, mechanically undertaken, with little or no budget making value.

- c. Encouragement of Gimmickry - Decision-Unit managers could resort to tactics, rather than technical rationale, which would make significant reductions in their budget requests very difficult. For, example, politically sensitive items can be placed in the lower priority (high expenditure) packages thus forcing higher level decision-makers to accept the more expensive options. One reason for this is that ZBB requires that low-cost packages receive higher rankings than costlier packages.
- d. Lack of Results from ZBB - Many critics cite instances from the experiences of state and local governments that show no significant reallocation of budget dollars as a result of the ZBB system. For example, George Minnier, in evaluating the Georgia experiences with ZBB during 1973 through 1975, shows that he was unable to find any evidence that resources had been shifted as a result of ZBB, and further, no activity received less funds during

those years than it received in previous years.

e. Yearly Application of ZBB is Unproductive -

Two reasons are cited that indicate the application of total ZBB is duplicative and counterproductive. First, since approximately 75 percent of the Federal budget is comprised of permanent appropriations (social security, pensions, debt interest, etc.), ZBB can only impact 25 percent of the budget. Secondly, a number of large and politically sensitive programs (contracts) are multi-year efforts, while ZBB on a yearly cycle addresses only a minimal portion of the overall budget, yet it requires a considerable amount of time to prepare and process. The yearly "drop dead" posture of ZBB makes the five year development plan (FYDP) and other program planning guidance of DOD little but paper exercises.

f. Absence of Top-Down Feedback - Lower organizational levels are seldom, if ever, advised of any further information other than the funding allocations. For example, there are other uses (implied) for the budgeting/ planning data but lower levels are not informed on what or how these implied benefits are accrued. Two way feedback communication

could possibly improve attitudes, performance and morale.^{13, 14, 15, 16}

Sunset Legislation

Reformation of government for more efficiency has become a top priority at the state and national level. The public orientation is to limit the size of the bureaucracy and to make it more responsive to the country's needs. The popular innovation that is sweeping the country is "Sunset Laws," which provide for the automatic termination of government agencies or programs unless reprieved by the legislature.¹⁷ Sunset legislation has been enacted in twenty-four states and has been debated before the U.S. Senate during the past two legislative sessions.¹⁸ The basic purpose of this legislation is to require each agency to periodically go before the Congress to defend, explain and justify its continued existence. If the Congress does not act favorably, the "sun will set" on that agency or program and its authorization will automatically terminate, thus the legislation currently known as "Sunset" Law.

Historical Background

Perhaps the need for Sunset provisions, the problem of bureaucratic malaise and the tendency for government agencies to become captives of their clientele, was recognized by the Attorney General in 1892 in speaking of the Interstate Commerce Commission, "The older such a

commission gets to be, the more inclined it will be to take the business and railroad view of things . . .¹⁹ One of the current dominant interest groups in this area has been Common Cause, the "citizens lobby," which has criticized regulatory agencies on the grounds that many operate with almost no public attention . . . dominated by special interests . . . and are vulnerable to conflict of interest."²⁰

Former United States Supreme Court Justice William O. Douglass, then chairman of the Securities Exchange Commission, suggested to President Roosevelt during the 1930's that every agency should be abolished ten years after creation.²¹ In a 1947 study, the Urban Institute noted that the Federal government as a whole and most Federal agencies have no overall system for objectively evaluating programs and project effectiveness.²² This normally comes under the review of Congress but the lack of clarity and ambiguous goals of legislative enactments obscure the evaluation of agency performance.

One formal responsibility of Congress is commonly referred to as "oversight." The Legislative Reorganization Act of 1946 directs legislative committees to exercise continuous watchfulness of program performance in areas under their jurisdiction. Further attempts at legislative oversight were the Intergovernmental Cooperation Act of 1968, which required quadrennial review of grant-in-aid programs and the Congressional Budget and Impoundment Control Act of 1974, which strengthened the oversight role of standing

committees. Despite this preponderance of authoritative directives, the legislatures have not performed the oversight function in an effective or meaningful manner.²³

Sunset in State Government

One witness noted that some of the most innovative efforts to correct the bureaucratic syndrome and improve the legislative evaluation process have been made by state and local governments.²⁴ Municipal government reforms of the early 1900's led to the Budgeting and Accounting Act of 1920. In a similar analogy, a famous jurist in a 1931 case noted, "it is one of the happy incidents of the Federal system that a single courageous state may, if its citizens choose, serve as a laboratory."²⁵ Much of the impetus for the current reform movement in the Federal legislation originated at the state level and much of the contents of the Sunset bills such as S. 2 and S. 1244 before the 95th Congress were modeled after bills developed in various statehouses.

Sunset in New Mexico

The Sunset Law was enacted in New Mexico by the legislature in 1977 and was applied to the state's twenty-six examining and licensing boards. The Legislative Finance Committee reviewed these agencies during the 1977 and 1978 sessions and three were recommended for termination. The legislature ordered the remaining agencies to hire full time staffs and open offices, but do so within their current

budgets. The New Mexico Sunset statute has provisions for public hearings and a grace period for terminated agencies.

The Legislative Finance Committee considered the following issues in its review, analysis and formulation of recommendation of the twenty-six regulatory agencies:

- A. The extent to which the agency has permitted qualified applicants to serve the public;
- B. The extent to which the agency has operated in the public interest, and the extent to which its operation has been impeded or enhanced by existing statutes, procedures and practices and by budgetary resources and personnel matters;
- C. The extent to which the agency has recommended statutory changes to the legislature which would benefit the public as opposed to the persons it regulates;
- D. The extent to which persons regulated by the agency have exercised control over the policies and actions of the agency and the extent to which the agency requires the persons it regulates to report to it concerning the impact of rules and decisions of the agency regarding improved service, economy of service and availability of service;
- E. The extent to which persons regulated by the agency have been required to assess problems in their industry which affect the public;

- F. The extent to which the agency has encouraged participation by the public in making its rules and decisions as opposed to participation solely by the persons it regulates;
- G. The efficiency with which formal public complaints filed with the agency concerning persons subject to regulation have been processed to completion by the agency; and
- H. The extent to which changes are necessary in the enabling laws of the agency to adequately comply with the above factors.²⁶

The three alternatives (A, B and C) with modifications that were available relative to each agency impacted by the Sunset Legislation were:

- A. Create a central department of licensure with a central administrative staff to serve the individual boards.
 - 1. Create a central department of licensure with one overall board and staff supported with advisory boards in selected areas.
 - 2. Create a central department of licensure with one overall board and staff with no advisory boards.
- B. Retain the board in its present form. If continuance is determined, the committee recommends that the following be accomplished:

1. Lay membership be increased and made mandatory;
 2. Revisions in the law should assure that boards not restrict competition and free enterprise;
 3. Further law revisions should stress areas concerning consumer protection;
 4. All board powers concerning price setting for services be removed;
 5. The laws recreating these boards should require full-time staff coverage during regular working hours. Further, all the offices for these boards should be located in a single city.
 6. If a board requires practical examinations and/or establishment inspections, these should be conducted by a professional staff member who does not engage in the industry involved in the test or inspection.
 7. Attorney fees assessed by the Attorney General's office for these boards shall be at a rate not to exceed an hourly rate set by the legislature. Attorney services shall be billed only if the service was requested by the board. The Attorney General's office shall not assess any other charges to these boards.
- C. Abolish the board and its functions, leaving industry regulations to the free enterprise system. Under this option, consumer protection functions could be handled via citizen complaints to the

consumer protection division of the Attorney General's office.²⁷

It is quite evident from the above guidelines and procedures that the New Mexico Legislature was thorough in its review of the impacted regulatory agencies. It is noted that this orderly approach of focusing on regulatory agencies has been somewhat successful; however, it only impacts a small portion (less than one percent) of the total state budget. It is not known at this writing whether or not the Sunset procedure will be expanded to other state agencies and programs.

Sunset in Texas

Texas was the first state that attempted implementation of the Sunset concept. It was a provision in the proposed Texas Constitution in 1975, but was rejected by the voters in a statewide referendum. However, other provisions and not Sunset were blamed for its rejection. That proposed Constitution contained a Sunset provision limiting all statutory state agencies having appointed officers to ten years of life unless renewed. Institutions of higher education were exempted from this provision and agencies with outstanding bonds were not to be terminated unless the legislature provided alternate means of servicing the debt.

Sunset in Colorado

Common Cause of Colorado was the driving force and initiator of the Sunset concept in that state. The group

laid the groundwork in 1975 which subsequently led to its passage by the legislature in 1976. Common Cause did a comprehensive study of the boards and commissions within the state's Department of Regulatory Agencies prior to offering the Sunset proposal. A bill to enact the Sunset concept was introduced in the Colorado legislature in 1976; the bill had widespread support primarily due to statewide public hearings and some Interim Judiciary Committee attention given to the area during 1975. It passed the legislature and was signed into law in 1976.

The heart of the Colorado statute is a provision which authorizes the legislature to extend the existence of any terminated agency to not more than six years. The agency is abolished, if no affirmative action is taken by the legislature. This action-forcing mechanism gives Sunset Laws their teeth by forcing the legislative action to save an agency. There are associated provisions that specify prior notification times, public hearings before the legislature for defense of the agency and a one year grace period after abolition to allow the agency to phase out its business.

The Colorado Sunset statute, like any new law, had inherent limitations, one being that it focused on regulatory agencies, rather than all departments of the state's government. One area of concern about Sunset was functionally whether the legislature could devote adequate attention to the process of critical review of the agencies while performing all other duties. Despite some imperfections, the Colorado

Sunset Act appears to be working. Although three of the first five agencies reviewed under Sunset were terminated, the Colorado Governor noted that the real test of Sunset review is whether agencies are more responsive and accountable, not how many are terminated.²⁸

Sunset in Other States

Since the Colorado legislature enacted its Sunset Law, it appears that most of the states have at least examined the concept. At least twenty-four states have enacted some form of Sunset Laws including Alabama, Alaska, Arkansas, Colorado, Connecticut, Florida, Georgia, Hawaii, Indiana, Louisiana, Maine, Montana, Nebraska, New Hampshire, New Mexico, North Carolina, Oklahoma, Oregon, Rhode Island, South Dakota, Tennessee, Texas, Utah and Washington.

Not all states were successful in the implementation of Sunset Laws. The pitfalls of poorly conceived legislation can be illustrated by the experiences in some states. Perhaps one of the worst examples is the Alabama Sunset Law which required the legislature to vote over two hundred agencies up or down, one right after the other, with a two hour limit on debate for each agency.²⁹ The enormity of the task provided few reforms and very little detailed evaluations. Similar experiences in Arkansas and Louisiana indicate that the Sunset concept may be jeopardized by taking on too much at once and by its headlong application to the whole gamut of government activity. Six of the state Sunset Laws

are directed primarily at regulatory activities. Common Cause, one of the major supporters of Sunset legislation that has been instrumental in securing its passage in many states, has advocated this approach and lobbied against overly-broad legislation in many states.³⁰

Federal Sunset and Program Review Legislation

Today's interest in efficient government goes far beyond the Zero-Base Budgeting movement. There is widespread interest at all levels of government in evaluating program efficiency and effectiveness. Closely related to, but distinct from, Zero-Base Budgeting is the growing enthusiasm for "Sunset" Laws, which, as noted above, exist in many states and have been discussed and debated in the U.S. Congress during the past two Congressional sessions. Although Congress already has statutes authorizing their oversight functions, they have not done so effectively in the past. Reacting to the concerns of the public, there were more than seventy Sunset bills introduced in both the 94th and 95th Congresses that, in various forms, would require a top-to-bottom review of all Federal programs every six years and each program would terminate at that time, if Congress did not vote to renew the program.

The most active Congressional advocate for Sunset has been Senator Muskie who says, "I suspect that the public would be astonished to learn that there are some programs which are enacted forever and which we never

reconsider, absent a major scandal or other disaster."³¹

Bruce Adams, Common Cause's director of issue development and resident Sunset expert, speaking before the National Conference of State Legislatures in April 1977, said "Sunset is a powerful concept with great promise" but warned that the idea is "no panacea." He said that lawmakers who try to include all government programs immediately, rather than phasing in Sunset carefully may be responsible for ruining a good concept by loving it to death.

Sunset legislation is being considered because Congressmen believe they are losing control over the results of their legislation. Among the several reasons they list for this feeling are:

1. Expanding number and complexity of Federal programs.
2. Dramatic increase in uncontrollable expenditures.
3. Rapid growth of programs with permanent appropriations.³²

The uncontrolled expenditures or permanent authorizations accounted for 48 percent of the total budget authority in 1969 but had risen to 77 percent by 1977. The permanent authorizations results from legislation authorizing such items as public assistance, social security, veteran's pensions, and interest on the public debt. Therefore, the budgetary process does not start each new budget from zero, but must fund these programs that are legally required. This

seriously diminishes the options and latitude of choice by the President and Congress.

Senate Bill 2925, "Government Economy and Spending Reform Act of 1976" was the most prominent of several bills introduced but not enacted in 1976 to strengthen Congressional control over Federal programs. The bill would have required that budget authorizations for Federal programs and agencies automatically terminate after five years unless they undergo a zero-base review by the appropriate Congressional committee and are reauthorized, permanent authorizations being exempt. In 1977, S.2 (an amended version of S.2925) and S.1244 were the most notable of over seventy bills submitted in both Houses of the Congress, but were not enacted. Amended versions of S.2 and S.1244 were reintroduced in 1978 Congressional sessions but again were not enacted. The bill, S.1244, would require budget authority review on a four year schedule. Among the drawbacks of S.2 is that it did not require Zero-Base Budgeting in the preparation of the annual budget, and it includes a comprehensive approach, imposing termination dates on almost all entities of the Federal government, rather than a limited approach.³³

Senate Bill S.2 received the majority of debate and had another provision to create an eighteen member "Hoover Commission" on government organizations and operations. This commission is to identify changes needed in the structure and performance of Federal agencies and programs and improving efficiency. One odd feature is that the bill

makes the Sunset Law subject to zero-base review before the end of the first five year cycle. Another interesting feature is that the information required in a committee's zero-base review report is very similar to that produced in a Zero-Base Budgeting process.

Among the reasons cited for enactment of Sunset legislation is the need to strengthen the budget process by making Congress renew existing and new programs to make it more aware of the impacts of budget choices. Other reasons are to limit overregulation of the private sector, to make the government more responsive to the public and to provide more flexibility in the allocation process. One Senator in support of the Sunset concept noted that the Federal government presently has 228 health programs, 156 income-security and social-service programs, 83 housing programs and 1,240 committees, councils and commission resulting from the Congress creating entities, while rarely reviewing and terminating them.³⁴

Arguments for and Against Sunset Legislation

The Senate Committee on Rules and Administration reviewed many arguments for and against the mandated committee review that would be required in the Sunset legislation.

A summary of these are:

1. Arguments for Sunset

- a. Sunset would strengthen the Congressional capacity for comprehensive policy-making

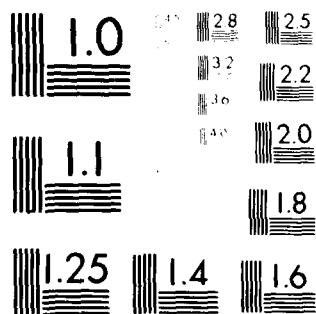
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(assess the desirability and extent of Federal spending).

- b. Sunset review would mean more efficient Federal programs (comprehensive reconsideration of programs and selective reviews at various depths).
- c. Sunset review would be the best Congressional system for allocating scarce resources (systematic prioritization and merit evaluation of programs).
- d. Other means to effective Congressional review of programs are unworkable (partial reviews are slow, limited and inconclusive).
- 3. Would include tax incentives with program spending to assess national priorities effectively.
- f. Sunset review could provide for public participation in the review process (through a Citizen's Commission on the Operation and Organization of Government).
- g. Sunset review suits the Zero-Base Budgeting plans of the Administration.

2. Arguments Against Sunset

- a. Sunset review is unworkable (enormous increase in Congressional committee workload).
- b. Sunset review would not strengthen Congressional decision-making (combined related pro-

grams; transfer detail reviews to committee staffs).

- c. Sunset would not be more efficient (excessive review time for low priority programs/not flexible).
- d. Other means of review would be preferable (systematic review possible without termination).
- e. Tax incentives should not be included in Sunset review (tax expenditures are difficult to assess; benefits are not always clear).
- f. Sunset review would not serve the public interest (may provide disillusionment, controversies and be decisive).
- g. Sunset review would duplicate the Zero-Base Budgeting of the Administration.³⁵

The future of Sunset at the Federal level is uncertain but it appears that some version will probably become law. Its enactment depends on whether the Congress can find workable compromises to the different arguments raised in the hearings. Assuming eventual passage, Federal agencies will perhaps learn to use Zero-Base Budgeting to generate the new paperwork required by congress to justify the continued authorization of their activities or programs.

Summary

Public pressure at local and Federal levels are forcing government officials to consider means of conserving financial resources. It appears that the public no longer believes promises about slashing big government, but it would like more scrutiny of the nuts and bolts operations of both Congress and the Executive branch. In order to improve the basic assumptions about government and to actually be more efficient, policy-makers are pursuing two budget innovations, Zero-Base Budgeting and Sunset Legislation, in an effort to fund new or needed programs when additional tax sources and revenues are not easily available.

The President implemented ZBB in the Federal government in 1977 and Congress has been debating Sunset Laws in the 94th through the 96th Sessions but have not enacted them. ZBB is a managerial technique which requires that each agency (or program) justify every budget dollar (from zero upwards) it seeks rather than merely any requested increase over the previous year's funding. Sunset Law is the popular name for a statute which provides for the periodic termination of government agencies unless they are able to justify their existence. Both concepts have been used by local and state governments and ZBB has been used in private industry.

The focus of this chapter is to explore the similarities and differences between these two innovative budgeting concepts. Although ZBB and Sunset differ in detail, they are related and have much in common. Both are born of the

necessity for a sweeping review and fundamental reconsideration of the merits and effectiveness of existing Federal programs as opposed to the traditional review of additions or increments to the budgets for these programs. As noted earlier in this study, neither, of these concepts is new. The revival of ZBB and Sunset is a response to the serious fiscal concerns of these times.

As stated earlier in this chapter, the possible impacts of either Zero-Base Budgeting or Sunset Laws are somewhat illusive, since approximately 75 percent of the Federal budget involves permanent appropriations that would not be affected. Therefore, the maximum modification is only 25 percent of the budget, but is sizable in total dollars in the current budgetary outlay of around \$620 billion (roughly \$155 billion).

The lessons learned or insights gained from prior experiences with Zero-Base Budgeting and Sunset Laws in both the public and private sectors are primarily in the form of arguments for or against each concept. The arguments are about evenly divided pro and con for both concepts.

The argument for ZBB included impartiality of reviews and decisions, definitive objectives, rational priority ranking, integration of operational and budget decisions, more participation of lower management levels and reduced workload by top management. Arguments against ZBB were generally opposed to the above pro comments. However, some additional anti-ZBB clarifications includes the

absence of feedback (top-down), increased workload by management (since all levels would be involved), uncertain cost-benefit measurements and that yearly application of ZBB is unproductive because of the 25 percent maximum impact (see above) and some agencies (certainly DOD) have multiyear contracts that would be virtually untouched.

Sunset arguments, like those of ZBB, tended to reflect possible budgetary impacts but also included comments related to Congressional oversight review effects. The favorable arguments included: (1) possible strengthening Congressional policy-making capacity, (2) more efficient Federal programs through review, (3) would be best Congressional review system, (4) could include tax incentives, (5) could provide for public participation in the review process and (6) Sunset is compatible with the ZBB concept of the Executive branch. Arguments against Sunset opposed the above arguments for Sunset. For example, it is noted that Sunset is unworkable and would increase the Congressional workload; it would not serve the public and may produce disillusionment and false hopes; other review means without termination are preferable and Sunset review would duplicate the Zero-Base Budgeting concept already in existence.

State governments appeared to have had somewhat more success with Sunset Laws than with ZBB. However, neither concept has met with overwhelming success at the state level. Overall, if it can be generalized, it appears that the most

common pitfall by states in attempting to apply both concepts was the headlong broad scope application to all programs at once. At this time, no state government is currently using Zero-Base Budgeting; however, several states, most notably Colorado and New Mexico, have enacted and are operating under Sunset Laws. Colorado and New Mexico did not apply Sunset to all state programs but focused on regulatory agencies. As a result their legislative reviews have been very orderly and effective, but only affect a miniscule (less than one percent) portion of the state budgets.

It is assumed that their Sunset coverage will be expanded to cover more agencies and programs in the future. At present, the moderate concentrated Sunset approach would serve as a model for other governments, state and Federal, not to attempt broad scope, instantaneous coverage to all programs. This is the approach expressed by Bruce Adams and Common Cause.³⁶

The attempt in this chapter has been to investigate the implications and linkages of Zero-Base Budgeting and Sunset Laws separately and in a paired context. Zero-Base Budgeting can be considered a subset of Sunset in that total program/agency justification is the action issue. Both concepts differ in detail but have much in common. The interest in the two concepts was generated from the necessity for critical review of the merits and effectiveness of existing Federal programs, as opposed to the traditional review of only making incremental changes to the budgets. Both concepts

are in response to the public outcry and the growing need to achieve more flexibility in budget allocations so that inefficient or marginal programs can be terminated to permit the funding of new initiatives, reflecting new priorities.

The reader should be cautioned that the popular perception is not true concerning legislation establishing permanent spending programs, regulatory authority and tax relief provisions, as being evil within itself. Permanent legislation is not shielded from Congressional review. In fact, as noted earlier in this chapter, Congress has both the authority and responsibility for Federal program oversight, which covers the review, modification and repeal of any legislation, whether permanent or not, under the Legislation Reorganization Act of 1946 and the Congressional Budget and Impoundment Control Act of 1974.

Chapter IV Endnotes

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¹⁴Allen Schick, "Contemporary Problems in Financial Control," Public Administration Review 38:1 (November/December 1978): 513.

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²¹Ibid., p. 103.

²²Ibid., p. 104.

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²⁴Idem, 95th Cong., p. 110.

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²⁶New Mexico Legislative Finance Committee, Sunset Agency Recommendations: Examining and Licensing Boards Impacted by 1977 Sunset Law, No. 402-471, December 1977, pp. 1-15.

²⁷New Mexico Legislative Finance Committee, Report, Sunset Recommendations: Examining and Licensing Boards, No. 418-479, January 1979, pp. 1-31.

²⁸Bruce Adams, "Address to National Conference of State Legislatives' Conference on Sunset Legislation" (23 April 1977): 8.

²⁹Idem, Senate. Hearings, Program Evaluation Act of 1977, p. 149.

³⁰Idem, Bruce Adams, p. 8.

³¹Idem, 95th Cong., p. 115.

³²U.S. Congress, Senate, Committee on Government Operations, Hearings, Government Economy and Spending Reform Act of 1976, Report 94-1137, 94th Cong., 2nd Sess., 1976, p. 42.

³³U.S. Congress, Senate, Committee on Rules and Administration, Staff Working Group Report on S.2 and S.1244, Recommendations for Improving Program Review by Senate Committees, Report S.682-7, 95th Cong., 2nd Sess., 1978, p. 125.

³⁴Ibid., S.2 and S.1244 Congress Report, p. 127.

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³⁶Idem, Bruce Adams, p. 10.

CHAPTER V

INTERVIEW ANALYSIS

Introduction

This chapter is an analysis and evaluation of the responses received from an interview of Major Research and Development (R&D) Laboratories in the three Department of Defense Services: Army, Air Force and Navy. The purpose of the interview was to obtain feedback on past and current budgeting experiences from several management levels to support or reject the thesis hypothesis that lessons and insights learned from prior applications of Zero-Base and other budgeting concepts are being used to improve the effectiveness of budgeting in Air Force Research and Development Laboratories.

The interview was originally prepared for only Air Force organizations. However, midway through the interview process, it appeared wise to also include preliminary information from the Army and Navy, since numerous responses indicated that there were either similarities or differences in those services as compared to the Air Force's budget procedures. Preliminary contacts were made with the Army and Navy R&D organizations and analysis and evaluations are included herein.

The two methods of contact for the interview process were the telephone and in-person meetings. The telephone

was selected as the primary contact method because of low cost and speed of responses. The personal contact mode, while usually expensive, was possible because of the location in the proximity of some interview candidates and the location of numerous other candidates at the sites of official travel. It was felt that these two contact methods provided the dual opportunity to explain the interview schedule and to not only receive tabulative information but also to obtain narrative feedback comments. This narrative feedback was extremely valuable to the overall analysis and thrust of the thesis.

The interview schedule was designed to gather relevant information in five basic areas which are as follows:

1. Demographic
2. Adequacy of Instructions
3. Zero-Base Budgeting Impacts
4. Quality of Management Information
5. Feedback (from higher management)

The schedule was structured along the lines suggested by Hyman in that complementary questions are dispersed or separated to obtain a better quality of responses.¹ This idea is based on the opinion of professional human scientists who have conducted and evaluated numerous surveys and interviews.

One restricting condition for this structured interview process was the confidentiality of the information. The information received in responses was imparted on the condition that neither the individual nor the organization be

identified with specific data. Therefore, the interview information has been sanitized to show the technical relevancy, which is the overall purpose of this thesis.

The interview schedule process was conducted during a period just preceding the preparation of a new fiscal year budget by the Department of Defense organizations. Even though not planned to be done at this point in the budget cycle (the cycle was delayed), it proved to be a very fruitful time because some very useful information was obtained relative to the comparison of budgeting instructions from year to year. A copy of the interview schedule is presented in Appendix A.

Interview Population/Responses

A total of fifty-two responses were received from eighty interview contacts that were made (See Table 1). This response rate of 65 percent is extremely high for a regular interview schedule but is considered to be a little above average for a selective interview.² The interview strategy was specialized to get a high response rate by using the two highest response methods, personal and telephone. Also, it should be pointed out that the Department of Defense R&D management personnel are generally responsive to information inquiries, especially if they relate to relevant subject areas, and everyone is affected by budgeting even if not involved with budget planning.

TABLE 1
ORGANIZATIONS CONTACTED

AIR FORCE:

Air Force Systems Command
Air Force Wright Aeronautical Labs.
Air Force Avionics Laboratory
Air Force Flight Dynamics Laboratory
Air Force Aero Propulsion Laboratory
Air Force Materials Laboratory
Air Force Human Resources Laboratory
6570th Aerospace Medical Research Laboratory
Rome Air Development Center
Air Force Weapons Laboratory
Air Force Rocket Propulsion Laboratory
Air Force Armament Laboratory
Aeronautical Systems Division
Air Force Flight Test Center
Arnold Engineering Development Center
Electronic Systems Division
Air Force Flight Test Center
Armament Development and Test Center

ARMY:

U.S. Army Material Development & Readiness Command
U.S. Army Aviation Systems Command
U.S. Army Ballistic Research Laboratories
U.S. Army Aero Medical Research Laboratory
Ballistic Research Laboratories
U.S. Army Electronic Systems Command

NAVY:

Naval Air Systems Command
Naval Air Development Center
Naval Weapons Center

Approximately 70 percent of the interviews were conducted by telephone and the remaining 30 percent by personal contacts. The contacts included from one to three at each of the tri-services (Army, Air Force and Navy) major R&D commands with the majority of the contacts being made at the laboratory level. Attempts were made to contact at least three levels of management at each R&D organization including the budget/plans office, division and either branch or project manager levels. The purpose for the multi-management level contacts was to get feedback from persons at different levels of input into the budgeting process, who logically would have different or varying perspectives.

Prime Population - The Air Force R&D organizations were by design the prime population for the interview schedule to evaluate the thesis hypothesis. Thirty-five (35) responses were received from sixty (60) interview contacts made for a response rate of fifty-eight percent (58%). Eighteen (18) different Air Force R&D organizations were contacted including from one to five levels of management.

Secondary Population - The Army organizations were the secondary population for the interview schedule with twelve (12) responses received from twenty (20) contacts for a response rate of sixty percent (60%). Among the Army R&D organizations contacted were two major commands. However, the Army data is not included in the detailed thesis analysis but is used in the comparison of the budgeting process among the three services.

Tertiary Population - The Navy R&D organizations served as the tertiary population for the interview schedule. Five responses were received from five contacts for a one-hundred percent (100%) response rate. It should be noted that the Navy R&D organization uses a different (from the Air Force and Army) budgeting process that did not warrant numerous contacts. This will be discussed later in a section on the comparison of the budgeting process among the three services.

Tabulation of Interview Results

The numerical percentage tabulation of the interview schedule responses is shown in Table 2 in a summarized form showing the highest percentages for the normalized categories. A complete table showing the percentages for each schedule question is presented in Appendix B. The response data was summarized under five basic categories which are: (1) Demographic, (2) Adequacy of Instructions, (3) ZBB Impacts, (4) Quality of Management Information and (5) Feedback.

1. Demographic - The demographic data comprising questions 1 and 2 (schedule, Appendix B) was primarily to establish the number of years the respondent has been involved with budgeting as well as at the specific management level. The years of budgeting experience is necessary in order to determine if the person had been involved with the previous budgeting concepts of PPBS and MBO. This provides a key or

weighting factor for comparative comments between these budgeting concepts and ZBB based on experience in budgeting. Also, a person's position at the budgeting consolidation (laboratory plans office) level or branch/program level provides a possible different perspective on some specific questions. The response data shows that most of the respondees have six (6) years or more experience in the budgeting process and have worked with both PPBS and MBO concepts. The majority are working at the budget consolidation level in budget or plans offices.

2. Adequacy of Instructions - The questions 5, 7, 8 and 13 are designed to compare and evaluate the adequacy and clarity of instructions received from R&D headquarters from the first year of ZBB (FY78) through fiscal year (FY) 82 (plans presently being prepared). The response agreement is that the first year's instructions (FY78) were inadequate and late in the budgeting cycle; however, the Air Force Systems Command (AFSC) conducted workshops to educate the budget offices. The responses are somewhat mixed on later years but generally agree that they have been adequate since FY78. There were some changes in the current budget cycle, FY82, FYDP (Five Year Development Plan) that alter some requirements for the total budget package, but these will be discussed under the overall analysis section.

3. Zero-Base Budget Impacts - Questions 3, 4, 9, 10 and 11 were designed to assess the impacts that ZBB has had on funding allocation changes and the amount of time

TABLE 2
SUMMARY OF INTERVIEW RESPONSES
(ZERO-BASE BUDGETING INTERVIEW SCHEDULE)

CATEGORY	PERCENT
<u>DEMOGRAPHIC</u>	
*1 1. Over 6 Years Budgeting Experience	90 ^{*2}
2. Laboratory/Budget Consolidation Level	80
<u>ADEQUACY OF INSTRUCTIONS</u>	
5. Instructions for FY78 (no)	87
7. Instructions for FY79 (yes)	100
8. Major Instruction Changes for FY79 (no)	60
13. Sufficient Space for Justifications (no)	87
<u>ZERO-BASE BUDGETING IMPACTS</u>	
3. Budgeting Time Required Under ZBB (more)	70
4. Budgeting Time Required This Year/ Last Year (same)	75
9. Resource Shifting from ZBB (none)	90
10. Percent of Budget Impacted by ZBB (0-25%)	95
11. Improve Management Overview Capability (no)	75
<u>MANAGEMENT INFORMATION QUALITY</u>	
6. More Commander Involvement in Budgeting (no)	90
12. Improved Management Analysis (no)	60
15. Factors Causing Budget Changes (Directed)	65
17. Improved Management Information Quality (Slight)	60
<u>FEEDBACK (FROM HIGHER LEVEL)</u>	
14. Information on Budget Changes (most of the time)	60
16. Priority Establishment Method (Management Committee)	70

Note *1. The numbers identify questions found in the Interview Schedule in Appendix A.

Note *2. Appendix B has a complete tabulation of responses.

devoted to budgeting. Response indications are that less than 25 percent of the R&D budgets are or have been impacted by ZBB.

4. Quality of Management Information - Schedule questions 6, 12, 15 and 17 were geared toward determining whether or not the quality of management information has been improved through the use of Zero-Base Budgeting as compared to previous budgeting or management concepts. The schedule responses show that the majority feel that there has been some slight improvement in the quality of information but that this does not appear to cause any increased participation of commanders. The majority opinion expressed was that increased commander participation in the direct budgeting process was dependent on the desires of the individual commander.

5. Feedback - The primary thrust of questions 14 and 16 was to determine, if there is sufficient feedback from higher hierarchy concerning changes in lower organizational budgets after they have been submitted. Most respondents concurred that there was frequent feedback from higher headquarters, but that most of the budget modifications had been made and the feedback was informative and after-the-fact.

Analysis of Interview Results

The stated specific objective of this thesis is to examine the experiences gained from prior budgeting concepts to derive insights that can improve the effectiveness of

budgeting and administration in Air Force Research and Development Laboratories. As indicated in Chapter I, the emphasis herein is on improving the middle management's policy making capabilities. Documentation of past and the present budgeting concepts used by the government is presented in Chapters II through IV. This section is a correlation and analysis of the selective interview schedule results covering first hand experiences of middle managers who provided up-to-date reflections of actual operational conditions.

The interview schedule was designed to gather experience data that would address the specific and general objectives of the thesis and to provide information that would aid in substantiating or rejecting the thesis hypothesis. Chapter I states five sub-objectives or questions that are answered in evaluation of the hypothesis and formed the basis for formulation of the interview schedule from which the findings herein were gathered in the form of responses.

1. Adequacy of Instructions

One of the basic prerequisites for an effective budgeting process is the preparation of clear and understandable instructions for accomplishing the job. The annual Federal government call to prepare the budget is signaled by official bulletins and circulars such as OMB Circular A-11, which is the standardized initial guidance to govern-

ment agencies.³ Therefore, meaningful and precise budget guidelines are the key to good budget preparations and submittal.

The interview responses indicate that, while the instructions were not adequate the first year of Zero-Base Budgeting (FY78), they have generally been adequate each year since then. Also, it should be noted that the President introduced ZBB in early 1977, shortly following his inauguration, which was in the middle of the FY78 budgeting cycle. Therefore, there was only minimal time to prepare instructions and the impact would be miniscule on that year's budget. However, the Air Force Systems Command conducted instructional workshops to educate the lower organization's budget offices, which was considered adequate to address the preliminary modification to the FY78 budget plan.

There were comments made concerning the inadequacy of sufficient space on the individual program submittal forms to sufficiently justify programs. While most respondents indicated that the allowable space was inadequate, several noted that there are two circumstances that may compensate for this. One, perhaps the intent of management is to get a more precise description that addresses needs, issues and payoffs without frills. Secondly, in almost all cases, higher headquarters have heard of the programs in program reviews beforehand and, therefore, only a brief description is required to reacquaint them with a particular program.

2. Adequacy of Planning

Robert Golembiewski has stated . . . "the budget system should provide, in financial terms, planning information and control."⁴ This is concurred in by Albert Rosenthal who notes that a budget is a plan of action expressed in financial terms.⁵ In order to ensure the success of any research organization's program, there must be adequate planning prior to the implementation of the efforts. While the conventional public budget cycle has the four phases called planning, formulation, execution and audit, planning is the most important phase in setting the strategy for reaching the goals and objectives.⁶

Comments indicate that there has been adequate planning involved in the budgeting process under Zero-Base Budgeting. One reason for this is that the planning follows essentially the same budget cycle calendar under ZBB that was used previously, excluding the fiscal year change from July 1 to October 1.

3. Personnel Acceptance of Zero-Base Budgeting

Budgeting involves physical resources as well as human interests. James Bower indicates that the development of a budgeting system should include considerations for humanistic principles, since people are responsible for the effectiveness of the system.⁷ Thus, in order for any new concept or procedure to be successful, it must have the confidence of the personnel who are responsible for administering the procedure.

Indications are that management has generally accepted the ZBB system and proceeded to make it work, much as they have approved other concepts in the past. While only a small number of technical level persons were contacted, the comments reveal that the lower level people are somewhat skeptical of any real benefits from budgeting concepts, old or new. The general feeling is that command or high hierarchial decisions will be made to suit management, regardless of the budget system in use.

4. Management Information Quality

Zero-Base Budgeting was introduced into the Federal government to serve as an additional tool for management input and planning. Functionally, this process was to provide higher level management with the advice of their subordinates on how resources should be allocated. It was envisioned as a humanistic relief mechanism for previously frustrated bureaucratic planners because it would provide a means to get at activities and functions, which have long escaped them through review due to constantly changing accounts and programs structuring.⁸

Logan Cheek indicates that one purpose of the ZBB process is to provide information on where cost reductions can be attained and to identify the consequences or benefits accrued from additional or alternative spending plans. He notes further on that ZBB was an outcome of "bisociation . . . The putting together of two seemingly unconnected ideas of

fact to form a single new ideas."⁹ The latter refers to the fact that Zero-Base Budgeting includes as one basic step the establishment of objectives, which was taken from management by objectives, an earlier management concept.

One of the proposed benefits from use of the Zero-Base Budgeting concept was an improvement in the quality of management information. President Carter, while Governor of Georgia expressed the opinion that the new budget system's (ZBB) greatest contribution has been in the area of improved management information and noted in an interview:

Because of Zero-Base Budgeting, we were able to determine that seven different agencies had the responsibility for the education of deaf children. When we broke down the 11,000 or so decision packages and put a computer number of each kind of function, those functions were quickly identified as being duplicated . . .¹⁰

The responses were somewhat mixed about the impact of Zero-Base Budgeting on the quality of management information. At best, as indicated by question 17 responses (Table 2), there was a slight improvement in informational quality; however, this seemed to have been counteracted by the fact that the information did not provide any improvement in management analysis or overview capability. The perception that management information quality did not improve under ZBB is aided by the fact that organization commanders did not become any more involved in the budgeting process.

5. Management Involvement in the Budgeting Process

Two of the most promising and immediately relevant aspects of Zero-Base Budgeting have been its advertised characteristics for change in responsiveness and management involvement, as noted by Peter Phyrre.¹¹ This expected increased management involvement was based on the fact that the budgeting information would be put in a format that would permit relatively easy review of all programs, and their contributions to the organization's goals in a pre-prioritized form. This would facilitate their using advice and recommendations from subordinates in making any reordering of the budget priorities.

Response data indicates that there was no appreciable increase in the involvement of organizational commanders in the active budget process, as noted by questions, 6, 11, 12 and 16 (Table 2). Most respondents were of the opinion that the ZBB concept does not in itself entice management participation, perhaps because prioritizing is not done much differently from previous times. Also, it was felt that commanders get involved because of individual desires rather than being influenced by a concept or procedure.

6. Feedback from High Levels

Reginald Jones has indicated that budgeting should provide a planning and control system and as such . . . "it is not conducted passively and involves two-way feedback, up and down the scale."¹² The implication is that

successful budgeting cannot rely on post audit feedback in order to provide controls but that feedback should be present in all stages of the budget process.

Two-way feedback can serve both as an information conduit and as a morale builder. If communication channels are open, management at all levels can be assured that their decisions are based on the latest most accurate information. In a similar fashion, the morale of the lower echelons can be enhanced if they are kept informed of pending changes before the fact, even if the changes are negative in effect.

The results indicate that higher headquarters generally keep subordinate Air Force R&D organization informed of budgetary changes. In fact many respondents noted that headquarters are in regular telephone contact with laboratories; however, it was pointed out that the lower levels were not informed prior to budget modifications but were sometimes permitted to re-arrange programs within the ceilings set by upper management at headquarters.

At the laboratory organizational level, the interview data shows that prioritizations are mostly established by management committees with the others being done by management direction. In the cases of management committees prioritizations, the organizational commanders generally did not become involved in the active budget process.

Since there are numerous budget presentations in the form of program reviews (technical and budget) to the Air Force Systems Command personnel prior to the final budget

submittal, it was felt that there was marginally adequate feedback and interfaces with headquarters on budgetary matters. Most respondees would feel a lot better if they had prior knowledge of budget changes such that they could have an impact on some of the decisions. Most felt that information was adequate but not timely.

7. Zero-Base Budget Impacts (resource shifts/time)

The Zero-Base Budgeting process is intended to enhance an organization's capability to eliminate duplicative programs. Hermanson notes in his article that with ZBB:

. . . different organizational efforts toward the same goals, e.g., improved employee motivation, quicker response to formal inquiries, improved services to the public, etc., may be disclosed, each evaluated, and the most cost-effective or results - effective approach adopted with the others discontinued. Resources previously committed to the different efforts can then be freed for application elsewhere.¹³

Phyrr discusses the fact in his book that ZBB usually involves more managers and requires more managerial time than conventional budget concepts. He further points out that ZBB combines objective setting, program-wide evaluations and decision making in one process, while these management parameters are usually separated in other budgeting concepts.¹⁴ Therefore, what appears to be a time saver in one application may be just the opposite when evaluated critically.

Overall, the interview responses show that Zero-Base Budgeting generally caused no significant shifting of

resources and resulted in more time being devoted to the budgeting process. Questions 3, 4, 9 and 10 addressed these areas and the responses were rather positive in their expressed opinions.

In response to questions 3 and 4, respondees were sure that more time is being devoted to budgeting under ZBB. This is reinforced by the fact that basic research and some exploratory development have been deleted from the budget process, yet more time is required. Respondees were more than 90 percent sure in response to questions 9 and 10 that ZBB has caused no shifting of resources and there is less than 25 percent of the R&D budget impacted by ZBB. It should be noted that as stated in Chapter I, regardless to the budgeting concept in use, the Federal budget is approximately 75 percent committed to permanent authorizations. Therefore, Zero-Base or any other budgeting concept would only impact 25 percent of the Federal budget.

Other comments indicate that basic research efforts were never included in the Zero-Base Budget. Also, starting for the FY82 Five Year Development Plan (FYDP) submittal, exploratory development efforts are not included in the ZBB plan. This leaves only engineering and system development efforts for ZBB planning. However, this presents an anomaly since these efforts usually consist of multi-year contracts and are generally approved at headquarters level.

Comparisons of Zero-Base Budgeting in the Three Services

Results from the interview indicate that the Air Force and Army are using identical procedures under Zero-Base Budgeting, while the Navy is using different procedures. The Air Force Systems Command allocates funds to the R&D organizational level (laboratory) down to the program element or project area. Appropriate consolidated decision units/packages are submitted upwards from that level. The Army follows the same procedure for its major R&D command organizations.

Indications are that the Navy has not implemented Zero-Base Budgeting below the major R&D command level. Navy R&D laboratories use industrial funding and Zero-Base Budgeting can only be applied to overhead and operational funding for the laboratories. Industrial funding is a procedure whereby the individual laboratories are not issued a budget for R&D efforts, but each has to develop proposals and compete at the R&D systems command level for specific programs (funding), which is similar to the way industry competes for government contracts, hence the term, industrial funding.

Summary

The Zero-Base Budgeting interview schedule was prepared to obtain feedback on past and current budgeting experiences from different Air Force R&D management levels. The purpose for gathering the data was to support or reject the

thesis hypothesis that "lessons learned from prior applications of Zero-Base and other budgeting concepts are being used to improve the effectiveness of budgeting in Air Force Research and Development Laboratories." While originally intended for Air Force organizations, the schedule was also transmitted to both the Army and Navy to get an overall Department of Defense perspective on Zero-Base Budgeting procedures.

A total of fifty-two responses was received from eighty interview contacts for a 65 percent response rate. The responses by services included Air Force, thirty-five; Navy, twelve; and Army, five.

The gathered data was categorized into five areas: Demographic, Adequacy of Instructions, Zero-Base Budgeting Impacts, Quality of Management Information and Feedback. The demographic data revealed that all respondents had over six (6) years of budgeting experience and had, therefore, experience with the previous budgeting concepts of PPBS (Planning, Programming, Budgeting System) and MBO (Management by Objectives). Most also were at or had worked at the organizational budget consolidation level.

The respondents indicated that the instructions were either generally adequate or additional guidance could be obtained from the Air Force Systems Command, if needed. Most inputs to the schedule show that Zero-Base Budgeting has had very little, if any, impact on resource shifting.

The data indicates that there is a slight improvement in the quality of management information, but that it has not appeared to cause any increased participation by organizational commanders in the active budget process. In regard to feedback from higher headquarters, most respondees indicated that there is generally feedback from Air Force Systems Command on budget changes, but that the interfaces are mostly after-the-fact and lower levels cannot have an impact on the budget decisions, except in rare cases.

Chapter V Endnotes

¹Herbert H. Hyman, Survey, Design and Analysis (Chicago: University of Chicago Press, 1954), p. 76.

²Hadley, Contril, Gauging Public Opinion (Port Washington, N.Y.: Kennikat Press, 1976), p. 38.

³Thomas D. Lynch, Public Budgeting in America (Englewood Cliffs: Prentice Hall, 1979), p. 72.

⁴Robert T. Golembiewski, ed., Public Budgeting and Finance: Readings in Theory and Practice (Itasca, Illinois: F. E. Peacock Publishers Inc., 1968), p. 50.

⁵Albert H. Rosenthal, ed., Public Science Policy and Administration (Albuquerque: University of New Mexico Press, 1973), p. 14.

⁶Richard J. Stillman II, Public Administration: Concept and Cases (Boston: Houghton Mifflin Co., 1976), p. 246.

⁷James B. Bower, et al., Financial Information Systems (Boston: Allyn & Bacon, Inc., 1970), p. 152.

⁸Roger H. Hermanson, "A New Era of Budget Philosophy on the Federal Scene-ZBB-How to Make it Work," Government Accountants Journal (Summer 1978): 12.

⁹Logan Cheek, Zero-Base Budgeting Comes of Age (New York: AMACOM, 1977), p. 15.

¹⁰Interview with Governor Jimmy Carter, 95th Congress, 1st Session, 123 Cong. Rec. S.2, daily ed., 12 January 1977, p. 18.

¹¹Peter Phyr, Zero-Base Budgeting: A Practical Management Tool for Evaluating Expenses (New York: Wiley and Sons, 1973), p. x.

¹²Reginald L. Jones, Budgeting: Key to Planning and Control (New Prospect: American Management Association, Inc., 1971), p. 3.

¹³Idem, Hermanson, p. 12.

¹⁴Idem, Phyrre, p. x.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this thesis is to provide insights gained from prior experiences that can improve the effectiveness and responsiveness of the Air Force Research and Development budgeting process. The methodology used to attain the thesis goals is described in Chapter I and included a literature search and an interview conducted with Air Force, Army and Navy Research and Development organizations.

The survey was originally prepared and intended for Air Force management but was extended to the other two Department of Defense services to get a comparative perspective on their operational procedures for Zero-Base Budgeting. Several levels of laboratory management were contacted to get the benefit of hands-on experiences and to focus on the impacts and implications of Zero-Base and other budgeting concepts as perceived by middle management.

The reason for gathering the primary (interview) and secondary research data was to support or reject the thesis hypothesis which is "that lessons and insights learned from prior applications of Zero-Base and other budgeting concepts are being used to improve the effectiveness

and administration of budgeting in Air Force Research and Development Laboratories." In attempting to accomplish the hypothesis evaluation, the study approach focused on five general questions that are stated in Chapter I and are repeated here :

1. What lessons were learned from prior budgeting concepts and are they being applied to budgeting in Air Force Laboratories?
2. What insights were gained from previous applications of Zero-Base Budgeting in other domains (public and private) and are they being applied in the Air Force?
3. Is Zero-Base Budgeting being substituted for the political process or management judgements?
4. In view of Sunset Legislation, should Zero-Base Budgeting be applied yearly, as currently done, or every six years?
5. What are the implications of Zero-Base Budgeting to middle level R&D management in the Air Force?

The specific objective of this thesis was satisfied in that the gathered research data supports the hypothesis in showing that insights gained from field experience with budgeting concepts are being used by all levels of management to improve the effectiveness and administration of budgeting in Air Force Research and Development Laboratories. The general or sub-objectives were accomplished

by the analysis and evaluation of the research data in Chapters II through V.

The first part of question one is answered generally in Chapters II, III and IV while the second part is addressed by the data analysis in Chapter V and substantiated further in this chapter under conclusions. Questions, two, three and four are treated in Chapter IV with correlating data in Chapter V and under conclusions in this chapter. Chapter V addresses question five with correlating analysis presented in this chapter under conclusions and recommendations.

The significance of this study is that growing inflation has placed financial pressure on the public and private sectors to reduce spending and increase efficiency. The thrust of this thesis is to offer insights that could improve middle management's effectiveness in the budgeting process in an open-ended manner such that the improvements can be transferred upwards to higher levels. A background analysis was made of DOD experiences with past budgeting concepts to evaluate the transition of knowledge gained to the current budgeting system, Zero-Base, and to ascertain any implications that would improve effectiveness of the budgeting process in Air Force R&D organizations.

Chapter II discusses the background and experience of the Planning, Programming and Budgeting System (PPBS) in the Department of Defense during the 1960's. Indications are that PPBS was very successful as a management planning

and decision making process. Even though the critics do not all agree on the degree of success of the concept, the budget calendar established under PPBS has been retained and the budgetary submittals to Congress are presently done in the PPBS format.

Management by Objectives replaced PPBS in the Federal government and is described in Chapter III. The main features of MBO were its three major operational goals of identifying objectives, monitoring progress toward the objectives and auditing of results. MBO was never fully implemented in the government because there was a change of presidents a year after it was introduced in 1973. However, it was in use in a modified form until President Carter introduced Zero-Base Budgeting in 1977.

Management by Objectives is a participatory management concept, whereby all levels of the work force are to take part in setting organizational goals and in establishing program evaluation guidelines or criteria. Indications based on researched data are that upper level management regarded MBO as a threat to their authority and never fully accepted the concept, which prevented it from operating in the prescribed manner. This bureaucratic resistance, communication blockages and lack of training contributed to the demise of MBO. Two features of MBO that were retained in Zero-Base Budgeting are goal setting and quantitative progress evaluation.

Chapter IV is a combined investigation of Zero-Base Budgeting (ZBB) and Sunset Legislation. ZBB was introduced to the Federal government in 1977. Sunset Legislation was debated in the past two Congressional sessions, but has not been enacted at the Federal level. The implications of Sunset Legislation on Zero-Base Budgeting were examined to determine possible affects on the Federal budgeting process, since ZBB which occurs yearly is a sub-set of Sunset Legislation that would occur on four to six year cycles.

Conclusions

The gathered research data indicates that Zero-Base Budgeting is working in the Air Force Research and Development Laboratories as a tool, but not necessarily as advertised to the public as a concept to provide substantial reductions in government spending. Assessment of the interview data does not indicate any significant shifting of R&D resources due to ZBB. In fact, neither Zero-Base nor any other budgeting concept can impact any more than approximately twenty-five percent (25%) of the Federal budget, because seventy-five percent (75%) is committed to permanent allocations such as social security, pensions and veteran benefits.

Zero-Base Budgeting is a progressive management concept with features that can enhance decision making capability. The statement above that Zero-Base Budgeting has worked as a tool and, perhaps, not functionally deserves some

explanation. This gross assessment is based on both the Department of Defense past experiences with other budgeting concepts and a tempered evaluation of interview responses, which indicate a typical behavior pattern wherein military organizations generally respond to directions from higher hierarchy and tend to provide desired results.

These captive organizations oftentimes have the tenacity and analytical capabilities to make seemingly unworkable systems work efficiently as demonstrated with prior budgeting and management concepts (PPBS and MBO) that did indeed work and work well in the Department of Defense. Bower in Financial Information Systems speaks of efficiency and effectiveness.¹ The point made here in reference to Zero-Base Budgeting is that a process can be very efficient but not necessarily effective.

In evaluating the question of whether or not lessons learned from prior budgeting concepts are being applied in Zero-Base Budgeting, the researched data indicates that there are some specific insights that are being applied. Chapter II states some positive and negative aspects of the Planning, Programming and Budgeting System. This concept is considered to be the first Federal attempt at systematic budget planning and organizing, which provided the initial use of computerized automatic data processing in budget planning and analysis.

Some of the deficiencies or inadequacies of PPBS were identified after it was implemented and investigations

reveal that these deficiencies were indeed corrected and included in the later budgeting concepts, MBO and ZBB. Among the most glaring deficiencies of PPBS from which lessons were learned were: (1) focus on what but not how for alternatives, (2) cost benefits were not quantitative, (3) lack of priorities and funding impacts and (4) emphasis on new programs. The basic lesson learned was that a budget system cannot operate efficiently without decision making information which was lacking in PPBs. To some extent, some of these were corrected and incorporated in Management by Objectives and all have been modified and are included in Zero-Base Budgeting.

The basic insight gained from the implementation of Management by Objectives in the government was that the concept was never fully accepted by management and bureaucratic resistance was present from the start. MBO operates on the theory of participation of all work levels in establishing objectives and progress evaluation criteria. Research data indicates that management considered this practice a threat to their positions of directed authority; therefore, humanistic rather than mechanistic factors contributed to MBO's demise.

The change of presidents a year after it was introduced to the government was of course the prime reason for its demise. Goal setting and quantitative evaluation criteria are two features of MBO that were transferred to ZBB, which indicates that insights learned are being applied in

the government budget process. The lack of training at all levels was another factor that affected the progress of MBO. The Air Force Systems Command certainly learned from this experience and special emphasis was placed on conducting workshops when necessary to inform the personnel.

In answer to question two of the sub-objectives in Chapter I, there were no specific identifiable insights gained from the applications of Zero-Base Budgeting in other domains (public and private) that were transferred to the Department of Defense. There are, of course, general benefits derived from ZBB having been used by private industry (Texas Instruments) and by the state of Georgia prior to its introduction to the Federal government.

Question three of the sub-objectives is an examination of whether Zero-Base Budgeting is being substituted for management judgement or the political process. One concern raised when ZBB was introduced in 1977 was possible disruptions or stagnation during the learning curve of leaving a working system and transferring to a new one. Robert Anthony in his article, "Zero-Base Budgeting is a Fraud," points out that:

In Zero-Base Budgeting there is no mention of a programming process. The assumption evidently is that program decisions are made concurrently with budget decisions. This simply can't be done in an organization of any size: there isn't time.²

Another author speaking about the implications of this area notes that, if the budgetary process in use is

considered unsatisfactory, then the political system of which the budget is only an expression must itself be changed.³ Another citation relating the budget process to politics notes that:

. . . the process by which budgets are calculated and justified is only one--and by no means the most important--determinant of program size, distribution and content. The ZBB budget did not affect the basic economic and political facts of life.⁴

It appears that there are several experts who support the supposition that there is a connection between the budgetary process and the political system. The preceding author refers to the situation where OMB (Office of Management and Budget) for a number of times between 1968 and 1975 forced agencies to cut their budget requests, only to have Congress reinstate the budget requests. He further offers the opinion that, "upon examining the political considerations, it raises the question of just how long will it take agency heads to respond by adjusting their rankings to reflect perceived Congressionally assured adjustments?"⁵ This implied politicization can be expected to trickle down to the middle management level, wherein budgetary decisions and priorities are slanted toward those programs that rank high in Congressional popularity. Therefore, based on the researched and interview data (question 15), it appears that Zero-Base Budgeting is being substituted for the political process or management judgement in that most programs are directed from high management.

A postulation was made in question four of the sub-objectives on whether or not Zero-Base Budgeting should be applied yearly, if Sunset Legislation passes. Sunset Legislation, which did not pass the U.S. Congress in 1979, would require that all Federal programs and agencies be terminated after a specific period if not reauthorized by Congress. Even without Sunset, several critics feel that the yearly ZBB exercise is unproductive.⁶

Two reasons are cited that indicate the unproductivity of yearly ZBB application. ZBB can only impact 25% of the Federal budget since 75% is allocated to permanent commitments. Secondly, since there is a number of large and politically sensitive multi-year programs (contracts), ZBB can only impact a minimal portion of the overall budget. Further, the yearly "drop dead" posture of ZBB makes the five-year development plan (FTDP) and other program planning guidance of DOD little but paper exercises.⁷

Specific Conclusions

1. Adequacy of Instructions

It is the author's conclusion, based on the researched data, that the Zero-Base Budgeting instructions issued yearly by the Air Force Systems Command have generally been adequate. The instructions during the initial mid-year's introduction of ZBB in 1977 were less than adequate; however the Air Force Systems Command conducted workshops to

ensure that all R&D organizational budget offices were informed.

2. Adequacy of Planning

The planning associated with Zero-Base Budgeting appears to be adequate. The fact that the same basic budget cycle calendar has been used since PPBS and the minimal change in instructions from one year to another has combined to somewhat alleviate the panic budget preparation period that was typical in the past.

3. Personnel Acceptance of Zero-Base Budgeting

The study conclusions are that both management and technical personnel have generally accepted ZBB as fact. However, as stated earlier in the general conclusions, accepting and making a budgeting system work efficiently are not synonymous with making the system effective. It should be noted here that middle management has apparently done its job and is not responsible for the overall effectiveness of ZBB to attain the predicted cost reductions. This is the responsibility of higher levels of management.

4. Management Information Quality

The investigation indicates that Zero-Base Budgeting has not significantly improved the quality of management information. It appears that budgetary decisions and program selections are made in the same manner as before. That is, ZBB has not provided the capability for "lightning like"

budget decisions and cost reductions as perceived when it was first introduced.

5. Management Involvement in the Budgeting Process.

It can be concluded from the research data that there was no significant increase in the involvement of organizational commanders in the active budget process under Zero-Base Budgeting. Apparently the ZBB concept does not in itself entice management participation, perhaps because prioritizing and budget decisions are made no differently than under other budgeting concepts. This is not totally negative. One positive aspect is the use of management committees to prioritize programs rather than being directed by the commander. This could improve morale and enhance the development of management skills of subordinate managers.

6. Feedback From Higher Levels

The basic conclusion reached is that there is frequent feedback from the headquarters level, but it is usually after the fact to inform organizations of budget adjustments. It appears that laboratory levels are informed of their budget status on a timely basis; however, there is concern that the lower levels are not permitted to impact budgetary adjustments nor are they always informed of the rationale use for these changes.

7. Zero-Base Budget Impacts (Resource Shifts/Time)

The study conclusions are that Zero-Base Budgeting has caused no significant shifting of resources but it has required more budget preparation time than did previous budgeting concepts. One glaring fact is that Zero-Base Budgeting can only affect 25% of the yearly Federal budget, since roughly 75% of the budget is committed to permanent authorizations such as social security, retirements, interest on national debt and veteran benefits.

Roughly 60% of the Air Force R&D organization budgets are devoted to engineering and system development programs that are generally committed to multi-year contracts and are virtually unaffected by laboratory ZBB plans. This leaves around 40% of the R&D budgets to be included in actual laboratory level ZBB impacts. These conditions existed through the FY81 budget planning.

Starting with the FY82-86 five year development plan, the exploratory development funding is excluded from the Zero-Base Budget planning.⁸ This leaves only overhead and the engineering and system development efforts in the laboratory ZBB plan. Since funding decisions on these areas are usually made at higher headquarters or even Congressional levels, the real impact of laboratory ZBB planning for these areas is uncertain.

Recommendations

The Air Force Systems Command has provided adequate budgeting instructions and planning guidance under Zero-Base Budgeting. The recommendation in these areas is that the command continue to perform the services in this manner and keep communication channels open as they have been in the past.

The recommendation concerning management information quality and management involvement is that the continued use of committees (management and peers) in program prioritization should be continued, or perhaps increased. This could serve as a morale builder and establish pride in the work force through the participative management principles.

The complexity of feedback from the major command to all R&D organizations for each budget adjustment is recognized, because time does not always permit this. The recommendation on feedback is that the lower organizational levels would benefit from knowing the rationale for budget changes, since it could possibly give them cues for future expectations.

Any recommendation concerning the lack of Zero-Base Budgeting impact on resources would be directed at management levels above the R&D major command as noted in the initial recommendation statement. It appears that areas such as political climate, international events and public prerogatives have more influence on the Federal budget alloca-

tions than the budgeting concept. The small percentage (25%) of the Federal budget, not committed to permanent authorizations, limits the impact of Zero-Base or any other budgeting concept.

Chapter VI Endnotes

¹James B. Bower, et al., Financial Information Systems (Boston: Allyn and Bacon, Inc., 1970), p. 82.

²Robert Anthony, "Zero-Base Budgeting Is A Fraud," Wall Street Journal, 27 April 1977, p. 26.

³Lance T. LeLoup, Budgetary Politics (Brunswick: Kings Court Communications, 1977), p. 245.

⁴Ibid., LeLoup, p. 247.

⁵Ibid., LeLoup, p. 250.

⁶Bruce Adams, "Address to National Conference of State Legislatives' Conference on Sunset Legislation" (23 April 1977): 9.

⁷Ibid., Adams, p. 10.

⁸Air Force Systems Command, FY82-86 RDT&E and Procurement Appropriations Program Objective Memorandum (POM) Submission, 14 November 1979, p. 2.

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APPENDIX A

ZERO-BASE BUDGETING INTERVIEW SCHEDULE

This budgeting interview schedule was designed to ascertain perceptive information on operational experiences with the Zero-Base Budgeting system as compared to previously used budgeting systems in the Air Force. Personnel at two levels, laboratory budgeting staff and lower management, were interviewed primarily by phone with approximately 30 percent done in person.

Budgeting Interview Schedule

1. How many years have you been involved in budget preparation and submittal?
 - a. 1-3 years.
 - b. 4-6 years.
 - c. More than 6 years.
2. Your involvement in budget preparation has been.
 - a. Laboratory consolidation level (decision package level).
 - b. Program element level.
 - c. Individual program level.
3. Now that Zero-Base Budgeting has been implemented since 1977, how great is the time and effort spent by your laboratory in budget preparation as compared to previous budgeting systems?
 - a. Much greater.
 - b. Slightly more.
 - c. Approximately the same.
 - d. Less.
4. How did the time spent in budget preparation this year compare with the previous year?
 - a. Less.
 - b. About the same.
 - c. More.
5. Were the instructions you received from higher echelons in 1977, the first year of Zero-Base Budgeting, adequate for your budget preparation?
 - a. Yes.
 - b. No.
 - c. Uncertain.
6. Did the Commander (Laboratory/Division) become more involved in budget formulation after the implementation of Zero-Base Budgeting?
 - a. Yes.
 - b. No.
 - c. Uncertain

7. Were the instructions received by you in FY79 adequate for the preparation of the Zero-Base Budgeting decision units and packages.
- A. Yes.
 - B. No.
 - C. Uncertain.
8. Were the instructions and package formats required in FY79 changed considerably from previous years?
- a. Yes.
 - b. No.
 - c. Uncertain
9. Did the implementation of Zero-Base Budgeting cause a shifting of resources (funds or manpower) among programs in your laboratory as a result of decision packages and prioritizations?
- a. Large shifting.
 - b. Moderate shifting.
 - c. No change.
 - d. Uncertain.
10. What approximate percentage of your annual budget was impacted by the Zero-Base Budgeting prioritizations (i.e. what percent was not already committed to continuing programs or completion of finding actions on multi-year contracts)?
- a. 0-25 percent.
 - b. 25-40 percent.
 - c. 40-60 percent.
 - d. More than 60 percent.
11. Is budget planning and overview capability improved at your level with Zero-Base Budgeting.
- a. Yes.
 - b. No.
 - c. Uncertain.
12. Does the decision package of Zero-Base Budgeting with prioritized programs improve overview analysis as compared with the previous budgeting submittal format?
- a. Yes.
 - b. No.
 - c. Uncertain.

13. Is there sufficient space available to adequately justify programs on the Zero-Base Budgeting decision unit/package forms?
- a. Yes.
 - b. No.
 - c. Uncertain.
14. After submitting your decision unit/package to the higher echelon for review, are you or your organization notified of any changes and the reasons for these changes?
- a. Always.
 - b. Most of the time.
 - c. Seldom.
 - d. Never.
15. What factor most affects yearly changes made in your organization's five year development plan?
- a. Political climate.
 - b. Internal (local) priorities.
 - c. Directed priorities.
 - d. Other (specify).
16. How are priorities of decision units/packages established in your organization?
- a. Peer interchange.
 - b. Management committee.
 - c. Management direction.
 - d. Other (specify).
17. All good budgeting systems generate information for management planning and control. What affect did Zero-Base Budgeting have on the quality of management information provided as compared to previous budgeting formats?
- a. Substantial improvement.
 - b. Slight improvement.
 - c. No change.
 - d. Slight decrease.
 - e. Substantial decrease.

ZERO-BASE BUDGETING INTERVIEW SCHEDULE

Summary of Total Responses

	<u>Total</u>	<u>Responses</u>
	<u>No.</u>	<u>Percent</u>
1. How many years have you been involved in budget preparation and submittal?		
a. 1-3 years.		
b. 4-6 years.	3	10
c. More than 6 years.	32	90
2. Your involvement in budget preparation has been.		
a. Laboratory consolidation level	28	80
b. Program element level.	7	20
c. Individual program level.		
3. Now that Zero-Base Budgeting has been implemented since 1977, how great is the time and effort spent by your laboratory in budget preparation as compared to previous budgeting systems?		
a. Much greater.	2	5
b. Slightly more.	24	75
c. Approximately the same.	9	25
d. Less.		
4. How did the time spent in budget preparation this year compare with the previous year?		
a. Less.	8	20
b. About the same	25	75
c. More.	2	5

	<u>Total Responses</u>	
	<u>No.</u>	<u>Percent</u>
5. Were the instructions you received from higher echelons in 1977, the first year of Zero-Base Budgeting, adequate for your budget preparation?		
a. Yes.	5	13
b. No.	30	87
c. Uncertain.		
6. Did the Commander (Laboratory/Division) become more involved in budget formulation after the implementation of Zero-Base Budgeting?		
a. Yes.	3	10
b. No.	31	90
c. Uncertain.		
7. Were the instructions received by you in FY79 adequate for the preparation of the Zero-Base Budgeting decision units and packages?		
a. Yes.	33	100
b. No.		
c. Uncertain.		
8. Were the instructions and package formats required in FY79 changed considerably from previous years?		
a. Yes.	12	40
b. No.	18	60
c. Uncertain.		
9. Did the implementation of Zero-Base Budgeting cause a shifting of resources (funds or manpower) among programs in your laboratory as a result of decision packages and prioritizations?		
a. Large shifting.		
b. Moderate shifting.		
c. No change.	27	90
d. Uncertain	3	10

	<u>Total Responses</u>	
	<u>No.</u>	<u>Percent</u>
10. What approximate percentage of your annual budget was impacted by the Zero-Base Budgeting prioritizations (i.e. what percent was not already committed to continuing programs or completion of funding actions on multi-year contracts)?		
a. 0-25 percent.	31	95
b. 25-40 percent.	2	5
c. 40-60 percent.		
d. More than 60 percent.		
11. Is budget planning and overview capability improved at your level with Zero-Base Budgeting?		
a. Yes.	7	25
b. No.	21	75
c. Uncertain.		
12. Does the decision package of Zero-Base Budgeting with prioritized programs improve overview analysis as compared with the previous budgeting submittal format?		
a. Yes.	12	40
b. No.	18	60
c. Uncertain.		
13. Is there sufficient space available to adequately justify programs on the Zero-Base Budgeting decision unit/package forms?		
a. Yes.		
b. No.	30	87
c. Uncertain	5	13

		<u>Total Responses</u>	
		<u>No.</u>	<u>Percent</u>
14. After submitting your decision unit/ package to the higher echelon for review, are you or your organization notified of any changes and the reasons for these changes?			
a. Always.	9	30	
b. Most of the time	16	60	
c. Seldom.	3	10	
d. Never.			
15. What factor most affects yearly changes made in your organization's five-year development plan?			
a. Political climate.	10	30	
b. Internal (local) priorities.	1	3	
c. Directed priorities.	21	65	
d. Other (specify).	1	3	
16. How are priorities of decision units/packages established in your organization?			
a. Peer interchange.			
b. Management committee.	23	70	
c. Management direction.	10	30	
d. Other (specify).			
17. All good budgeting systems generate information for management planning and control. What affect did Zero-Base Budgeting have on the <u>quality of man- agement information</u> provided as com- pared to previous budgeting formats?			
a. Substantial improvement.			
b. Slight improvement.	21	60	
c. No change.	10	30	
d. Slight decrease.	4	10	
e. Substantial decrease.			