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Comparative Budgetary Approaches in Public Organizations

Mukdad Ibrahim
Ittihad University,P O Box 2286,Ras Al Khaimah,United Arab Emirates
Mukdad@yahoo.com

Abstract
The aim of this article is to give a comprehensive discussion of the four main approaches to budgeting, starting off with line item budgeting, program and performance budgeting, planning programming budgeting system and zero-base budgeting. The discussion covers the history, concept, procedures, advantages and disadvantages of each specified approach. The motivation behind this discussion was to seek a better understanding and familiarity with each of the various approaches to budgeting. None of them, however, can be regarded as a complete solution to budget problems. Each approach carries both strengths and weaknesses and thus cannot be applied indiscriminately to any given situation or financial environment. A solution for any budget problem depends on the nature of the organization affected and hence would require a thorough assessment of its operating environment before being carried out.
Keywords: Line item budget, Program and performance budget, Planning programming budgeting system, Zero-base budgeting, Decision making, Financial planning

1. Introduction

Considerable volumes of literature have been written about budgeting in general. Although each writer tends to have his/her own approach or method of writing, each must define "budget", discuss the origin of the term, why one ought to study budgeting, budget cycles, budget processes, budgeting purposes, budget games and politics, types of budgeting, budgeting functions, and so on. Volumes of literature covering the above areas are available and continue to grow as greater efforts toward more effective budgets take place. This paper, however, will discuss the four landmark approaches.

Recognizing that the budget is the single most important policy of any organization, this paper will discuss the following approaches of public budgeting:

1. The Line- Item Budget Approach (LIB)
2. The Program and Performance Budget Approach (PPB)
3. The Planning Programming Budgeting System (PPBS)
4. The Zero-Base Budget Approach (ZBB)

2. Budgetary Approaches

There is a great deal of confusion with regard to the usage of the term "program: budget. Some writers distinguish between the terms "performance" budget and "program" budget since the term "performance" was introduced first by the Hoover Commission in 1949, and the term "program budget" was later used by the Hoover Commission Task Force. Other writers do not distinguish between the two terms, yet they use one of them in reference to the other or both.

Therefore, after discussing the line-item budget approach (LIB), for the purpose of the research here, only the following three labels will be used:

1. Program and Performance Budget (PPB). In reference to reforms that started to take place on a large and popular scale in 1949, when introduced by the Hoover Commission, and in reference to its later stages that ends when the following approach commences.
2. Planning, Programming, Budgeting System (PPBS). In reference to the approach officially adopted by Robert McNamara in the 1960s
3. Zero-Base Budget Approach (ZBB). In reference to the approach officially adopted by James Carter, Governor of the State of Georgia in the 1970s

3. Line-Item Budget Approach

3.1 History

The line-item budget approach is also known as the "traditional budget approach", "incremental budget approach", "object expenditure or object approach", "commodity approach", "line-item" is the most commonly used term among writers.

Nicholas Henry (1980) indicates that all governments have always has some form of line-item budget. From the days of the ancient courts of Egypt, Babylon, and China, something was needed to keep track of expenses.

Prior to the introduction of this system, a lump sum was the budgetary request of people, groups, and institutional. Little or no indication was made as to how the money would be spent (Wanat 1978).

It is said that England was the first among Western countries to come up with rules and principles that served as a base for the development of modern budgeting. This goes back to the early part of the 18th century. Since the budget was the center of the struggle between the King and Parliament in English history ever since the 12th century, the English experience influenced American leaders when drafting the Constitution in 1789. Thomas D. Lynch (1979) indicates that "modern reform in budgeting started with reactions against corruption, not concern for government efficiency."

It all started in 1907, one year after the New York Bureau of Municipal Research was founded. The Bureau prepared the first detailed fiscal report emphasizing the need for a municipal budget system in the U.S.A. The Bureau also produced a budget by object classification for the Department of Health of the City of New York. In 1912 a speech by President Taft, regarding the Taft Commission Report, highlighted the need for object classification budgeting in all federal government departments and agencies (Lynch 1979).

In 1921 the Taft Commission's proposed budgetary reform was enacted, and most cities in the U.S.A. began reforming their budgets accordingly. The line-item budget approach, therefore, was the first and the earliest formal budget approach. Writers commonly date this approach to early 1921 when the Taft Reform Enactment took place (Lynch 1979).

3.2 Concept

The line-item budget approach is basically an expenditure0control approach. Since this approach started as a reaction against corruption and no concern for government efficiency, the approach is regarded as a management control tool. It includes criteria:

1. The object or categories of expenditure are listed, forming the backbone of the system, like supplies, personnel, maintenance, and so forth.
2. An appropriation of expenditure by department, office, or subdivisions of department of office – such as Department of Defense or Ministry of Health –to which monies are appropriated.

As mentioned above, the emphasis in this approach is on controlling expenditure and proper expenditure of funds, therefore it looks only on the input of the organization system without much concern on the output or the work performed as a result of the appropriated money.

In brief, resources are allocated according to the structured lines of departments and by categories if expenditure or line-items (like personnel, operating, and capital outlay). Schick, in describing this approach, states that it "accepts the base and examines the increment" (Schick 1966). What Schick is indicating is that justification of any previous expenditure is not emphasized. Rather, the emphasis is put on whether (1) the money preciously appropriated was spent or not, (2) the occurred expenditure was proper or not, and (3) the increment was justified or not. In defending the budget, questions regarding numbers one and three above take precedence, while questions regarding number two above are likely to occur only during a budget audit.

Wanat (1978) indicates that since all proposed expenditures in this system are listed according to the objects for which money would be spent, this type of approach is commonly called the "object of expenditure" or "line-item" system, because each item of the proposed expenditure is spelled out, and each item has its own line.

The line-item approach is very specific and its items are usually grouped by (1) personnel services, (2) operating expenses, and (3) capital outlay.

The basic assumption existing in this approach is that the activities making up the historical base (or line items) are not only essential to the ongoing mission of the entity, but they must be continued through the next budget year. Also, this approach assumes that current activities are being performed in a cost-efficient and optimum manner and will be cost effective in the upcoming budget year, requiring budget dollar increases for those uncontrollable costs that are included in the base (Berkley 1980).

Capital outlay (or capital budget as it is often called)—as a major component of this system—differs from one organization to another. However, generally speaking, it is an extension of the overall organizational strategic planning and involves the allocation of money to a variety of projects ranging from one to five years (building, equipment, etc.). It is also considered as the section of budget that contains any purchase that is too big for one-year budget.

3.3 Procedure

The commonly adopted and applied procedures of line-item budgeting among countries are the following:

1. Development of an administrative organizational structure. In the resulting organizational flow chart, departments with specific purposes or functions, along with their sub-departments, are grouped together. For example, there would be a spot on the flow chart for the Health Department, the Defense Department, the Police Department, the Fire Department, etc.

It must be emphasized here that in such a structure, divisions according to programs do not exist. Only departments and their subdivisions exist as budget units.

2. Development of expenditure categories and subcategories. Expenditures here are grouped according to specific items or objects, not according to programs or functions. For example:

First Object/Category: Personnel Expenses
1st Subcategory: Fixed Salaries
2nd Subcategory: Overtime
3rd Subcategory: Travel Allowance
Second Object/Category: Operating Expenses
1st Subcategory: Utilities
2nd Subcategory: Maintenance
3rd Subcategory: Uniforms
Third Object/Category: Capital Outlay
1st Subcategory: New buildings
2nd Subcategory: Improvements
3rd Subcategory: Machines, Equipment
Revenue source categorization then, should follow that of the expenditure listings mentioned above

3. Each category/object or item of expenditure is given a code number for usage in the accounting system. For example:

Code #	Objects	Sub-objects
100	Personnel Expenses	
101		Fixed Salaries
102		Overtime Salaries
103		Travel Allowance
200	Operating Expenses	
201		Utilities
202		Maintenance
203		Uniforms

4. A detailed description for each object, sub-object or item of expenditure is established. This description will them be utilized to regulated and control expenditures drawn from or requested for each item.
5. The establishment of an accounting system to keep record of the budget expenditures
6. Accordingly, money is requested and drawn by each department or sub-department. The flow of money would then flow through these channels of objects and items of expenditure.

In presenting the budget documents, the accounting columns for each item should include:
1. The adopted expense of last year's budget
2. The actual expense of last year's budget
3. The proposed expense for the nest year's budget

3.4 Advantages of the Line-Item Budget Approach
1. It is very simple and clear
2. It helps to facilitate expenditure control
3. It is very useful in the reporting of financial statistics
4. It is easy to review
5. Generally, it is a very good accounting and control device

3.5 Disadvantages of the Line-Item Budget approach
1. It does not provide an incentive to save money;

The traditional line-item budgeting tend to punish the parsimonious public manager. If he or she cuts costs and comes up with a surplus at the end of the fiscal year, then his or her overseers, legislative committee which approves the budget, will decide that he or she did not need all that money in the first place. Instead of receiving a medal, the public manager will most likely be given a cut in appropriations the following year (Berkley 1981).

2. It places attention on a small number of relevant values rather than placing attention on all important relevant values.
3. It fails to show what the money is being used for in terms of programs (Berkley 1981)
4. It fails to show the relationship between the expenditures made and the results obtained
5. It tends not to change; therefore, it tends to remain rigid
6. It does not offer an optimal vehicle for organizational self-analysis or planning (Wanat 1978)

4. Program and Performance Budget Approach

Many writers separate "performance budget" and "program budget" as in many ways the latter was an evolutionary stage of the former. This author, among many others, feels they are two sides of the same coin. However, as the "program and performance" budget is discussed here, separate regards to both program and performance sides of budgeting will be highlighted in an attempt to shed some light on possible causes for controversies over terminology.

4.1 History

The Program and Performance Budget system emerged as a result of the unwieldiness of and dissatisfaction with line-item budgeting as government responsibilities expanded in the present century.

Efforts on the "program: side of this approach date to 1907 when the New York Bureau of Municipal Research developed a 125-page document of functional accounting and data for the New York City Health Department (Babunakis 1976).

Evidence of similarity with this approach was seen in the 1912 Taft Commission Report on Economy and Efficiency, suggesting that expenditures be classified by type of work, organizational unit, source of funding, and character (Peterson and Spain, 1978).

Lent D. Upson, in an article in 1924, advocated a shift from accounting control to functional accounting. This was later on supported by a similar proposal made by a Wylie Kilpatrick in an article in the 1930s (Lyden and Miller, 1978). In 1939, the Bureau of the Budget of the U.S. Treasury Department was transferred to the Executive Office of the President. The Bureau became staffed increasingly with public administrators rather than with accountants (Henry 1980). This development, along with what is regarded as a classical article by V.O. Key, played a significant role in giving rise to the 1949 Hoover Commission Report (Peterson and Spain, 1978).

Nicholas Henry states that "prior to 1949, performance budgeting—which in some articles came to be known as program budgeting—was called "functional" or "activity" budgeting (Henry 1980). However, on February 15, 1949, a commission on the organization of the Executive Branch of the Government, named the "Hoover Commission", proposed a new type of budget. The commission's recommendation was that "the whole budgetary concept of the Federal Government be refashioned by the adoption of a budget based upon functions, activities, and projects deal with both the program and performance aspects of budgeting, the Commission went on to declare 'performance budget (Peterson and Spain, 1978).

Following the recommendation of the Hoover Commission, the federal government "refashioned" its budget in 1951 to show programs and activities under each appropriation request, and to introduce workload and other performance information in narrative form (United Nation, 1965)

4.2 Concept

In very simple words, the idea behind the program and performance budget approach is, first, to propose that money distribute—customarily—to different departments according to specific types of expenditure . . . (line-item); be spent, secondly, according to the developed, detailed listing of all activities of the whole organization or department . . . (program); in order to perform –thirdly—a listing of specific work in return . . . (performance). Therefore, any agency operating steps one and two above is regarded as operating at the first stage of program and performance budgeting. Similarly, an agency operating steps one and three above is regarded as also operating steps one of a program and performance budget. Thus, an agency can operate by listing and categorizing its activities without having to list the specific work hoped to be performed and vice versa. But that agency would not be regarded as operating a complete program and performance budget.

Hence, a true program and performance budget approach has two components—specific programs and expected performance. Most writers examine the performance side of this approach, giving very little attention and emphasis to the program side, These one-sided critics have contributed to the differentiation appearing between program and performance aspects of this budgeting approach.

However, the purpose of this approach is to highlight management considerations in budgeting and in so doing to bring out the most significant economic, financial, and physical aspects of budgetary activity.

In the transitional period between the line-item approach and the program and performance approach, Nicholas Henry (1980), asserts that budget officers saw their mission not only as one of precise and controlled accounting (line-item), but as one of development of activity classifications, of description of an agency's program and its performance, and of the exploration of various kinds of work/cost measurements. Hence, the concept behind program and performance budgeting is outlined by Henry as including not only precision control of accounting, but the development of activity classifications, and exploration of various kinds of work/cost measurements. The emphasis in this approach is on the agency's objectives and the agency's accomplishments, not on the purchase of resources.

Jessee Burkhead (1956) States that program-performance budgeting approach as the categorization approach focuses on things a government does, not on things a government buys or purchases. The focus, as Burkhead sees it, is shifted from the means of doing the work itself, to the performance of the work.

The program and performance type of budget is, therefore, a management tool which uses management's functions as a guide for implementing policies and controlling expenditure. The system includes, along with itemized objects of expenditure. Justifiable information on what all the itemized expenditure means in terms of programs and achievements, as far as public service is concerned.

As an example, in a program for the Health Department, this budgeting system treated as a result of certain expenditures. In a program for a Public Works Department, it could tell us how many miles of streets were paved

as a result of annual expenditures. "Such budget emphasizes activities to be completed (audits performed, miles of streets swept, gallons of water treated, etc.) and the total expenditure needed for that activity" (Mikesell 1982).

Wanat (1978) stresses that this approach is a management tool, rather than a control procedure, as it helps managers to increase the understanding of how to wisely spend money, in the sense that maximal output is achieved for minimal input.

The general emphasis of a program and performance budget system is really on what is being proposed and why (programs) and what is hoped to be achieved and how (performance). On the program side of the approach the services furnished by the agency and the means of financing these services are the issue. The performance side of the approach commences where the program side leaves off; it utilizes techniques for measuring works.

4.3 Procedure

Whenever a program and performance budget system is to be developed, the author believes the following procedure will have to be utilized:

1. Identification of the goal of the agency
2. Identification of objectives leading to that goal
3. Development and classification of programs, subprograms, and work units serving each objective
4. Determination of inputs (money, manpower, and materials, etc.) for each program.

This is where the system of accounts and financial management are utilized.

5. Setting up standards or indicators to determine outputs or performance. This step provides a total perspective for effective budget managements.
6. Establishments of a reporting and control system
7. Measurements of performance or output are established for all sub-categories of each program.

4.4 Advantages of Program and Performance Budget System

1. It provides an overall clear picture of the agency's activities and it helps to point out the direction toward which the agency is going
2. It provides more rationality in spending
3. It provides an easy and clear method for review and approval
4. It provides an effective control of the flow of money and an effective control of ongoing work.
5. It shifts the politics from the budget itself and transfers it to the objective priorities
6. It integrates the budget more closely with programs. It emphasizes control as well as the management aspect of the budget
7. It ignores departmental subdivisions because the agency's goal is of primary importance.

4.5 Disadvantages of Program and Performance Budget System

1. There is a tendency to inflate the expenditure when operating this system
2. It requires participation at all levels, and there might be difficulty in obtaining such participation
3. It poses difficulty in setting up standards of performance and difficulty in measuring performance
4. The objectives stated many not necessarily reflect the people's need
5. It does not necessarily consider alternative routes to the accomplishment of a particular task.

5. Planning Programming Budgeting System

5.1 History

Schick (1966) points out that the evolution that led to PPBS can be traced back to earlier efforts to link planning and budgeting, as well as to the analytic criteria of welfare economics. But PPBS, in its recent development, is more of a result of modern informational and decisional technologies, such as those pioneered in the Department of Defense.

There are three important developments that undoubtedly gave rise to the evolution of the planning orientation of PPBS:

1. Economic analysis
2. The development of new information
3. The gradual convergence of the planning and budgetary process

Henry points (1980) out those certain elements of PPBS actually had their origins in industries. He argues that General Motors was using different forms of PPBS as early as 1924. During World War II, the concepts of PPBS were relied on by the controlled materials plan of the War Production Board. Henry states that "By the 1950s, the U.S. Air Force's Rand Corporation began applying systems analysis to the evolution of weapons systems and recommended the institution of a 'program package' as a budgeting unit in Air Force planning."

Robert McNamara, the Secretary of Defense in John F. Kennedy's term, adopted the system to his department. PPBS gained its utmost attention when it was adopted by the U.S. Federal Government in 1965. By 1971, PPBS was "officially terminated" in Federal Government (Mikesell 1982).

5.2 Concept

Hatry and Cotton, (1967) believe that there is little new in the individual concept of the planning, programming and budgeting system, and the little newness comes from, primarily, the combination of these concepts into a package and the systematic application and usage of the package to governmental decision making. Nonetheless, numerous writers acknowledge the contribution of the concept as a total package system. Mueller (1981) States:

. . . . of long-range planning by top management, programming by middle management, which defines operational objective, and budgeting by middle management and budget analysts which provides benefit-cost analysis of alternatives and incorporates the alternative selected into a budget document.

The planning programming budgeting systems is an attempt to integrate the decision that involves how much money to raise and spend into a more comprehensive process of program planning and analysis. It is an attempt to rationalize comprehensively, and its major objective is to measure the costs of services and predict their impact on policy decisions.

President Lyndon Johnson, in introducing the system officially put it in very simple words when he claimed that the system would enable public decision makers to: (Johnson 1966)

1. Identify national goals with precision on a continuing basis
2. Choose, among those goals the ones that are most urgent
3. Search for alternative means to reaching those goals most effectively at the least cost
4. Inform the public and policy makers not merely on next year's costs, but on subsequent years' costs of the programs they propose
5. Measure the performance of programs to insure a dollar's worth of service for each dollar spent

In the same presidential speech, three concepts were stressed: (1) the analytical capability of PPBS, (2) the multi-year planning and programming process, and (3) the budgeting process.

The State-Local Finance Project (1968) considered the analytical capability, the multi-layer planning and programming and the budgeting process as the three basic concepts of PPBS. The State-Local Finance Project stated that the PPBS program was principally made up of: (Mushkin 1969)

1. An analytic capability which carries out continuing in-depth analyses of the government's objectives by a permanent specialized staff
2. A multi-year planning and programming process which incorporates and uses as information system to present data in meaningful categories in relation to major decisions
3. A budgetary process which can take program decisions, translate them into a financial plan in a budget context, and present the appropriate program and financial data for executive and legislative action

In an effort to underline the purpose of PPBS, Hatry (1967) argues that PPBS' aim is to help management make better decisions as far as allocating resources among competing alternatives in order to attain government objectives. He believes further that the essence of PPBS is the development and presentation of information as to the full implications, the cost, and the benefits of major alternative courses of action relevant to major resource allocation decisions. PPBS is simply, as Keith Mueller indicates, "tool for rational decision making."

In PPBS, programs are gathered constructively on the basis of their contribution to the agency's objectives. Mikessell (1982) points out that the focus of programs in PPBS is on what the government purchases; it is not on activities in which the government is engaged. PPBS is focused on the outputs of government. Mueller (1981) points out that this system places together programs which contribute to a similar objective so that competition for funds occurs among real alternatives.

In PPBS, process programs are valued so highly that government functions are classified into a hierarchy of programs, sub-programs, activities, and sub-activities, which may or may not corresponds to the organization of government (Mikesell 1982). By 1971, the system was largely abandoned. In part, the system was a victim of its own ambition (Diamond 2003). Moreover, PPBS had to be customized to suit the demand of each agency, a process considered too time consuming by agency leaders. Furthermore, its adoption was further undermined by a lack of commitment by legislators.

5.3 Procedure

Many writers who believe PPBS can be implemented even though they recognize the problems and difficulties in its implementation. In an attempt to develop a comprehensive process for the implementation of PPBS, the following outline is offered (Lunenburg 2010):

1. Specifying Goals. The process begins by analyzing and specifying the basic goals in each major activity or program area.
2. Search for Relevant Alternatives. Through PPBS school administrators assess as fully as possible the total costs and benefits of various alternatives.
3. Measure the Costs of the Program for several Years. An essential feature of PPBS is long-range planning and budgeting.

4. Evaluate the Output of Each Program. PPB System focuses on the output of programs, whereas traditional budgeting approaches tend to emphasize expenditure inputs.

5.4 Advantages of PPBS

Many writers believe PPBS has one or two major advantages.

1. It offers a more rational approach to budgetary processes.
2. Its main advantage is to sharpen and clarify the policy options available to administrative decision makers.
3. It enables the policy maker to ask questions in a systematic manner and compels the system analyst to provide what factual information or informed estimates can be given.

However, Berkley points out three benefits for PPBS: (Berkley 1981)

1. It provides some improvement over existing programs
2. It sheds a lot of light on the worst programs
3. It encourages administrators, politicians, and the public-at-large to get used to thinking along different and more constructive line

5.5 Disadvantages of PPBS

The most interesting criticism of PPBS is that of Wildavsky (1979): "Telling an agency to do program budgeting means telling it to find better policies, and there is no formula for doing that." He goes on to say, PPBS does not work because it cannot work. Failure is built into its very nature because it requires the ability to perform cognitive operations that are beyond present human (or mechanical) capabilities.

Wildavsky's view of PPBS is one of a comparison of alternatives to achieve an objective comparison of difference objectives. Wildavsky believes that PPBS increases the cost of correction errors and because dollars flow to objectives, it makes it very difficult to abandon those objectives, or parts of them, without abandoning the organization that gets money for them.

In placing PPBS in perspective for states and localities, Hatry (1967) points out some problems in PPBS.

1. There is a reluctance to change
2. There are problems with the definition of objectives
3. There is difficulty in obtaining accurate, pertinent data
4. There is difficulty in considering an accurate timeline of costs and benefits

6. Zero-Base Budget Approach

6.1 History

It is not very clear exactly when the zero-base approach to budgeting was first started. However, we can trace this approach to budgeting back to 1915, when "a domination" was passed by the British treasury to the various departments in preparing budget estimates. In the circular letter sent to the officers responsible for the preparation of the estimate in each civil department, the utmost economy was demanded, and a particular warning was conveyed against assuming last year's estimates as the starting points for the following year (Draper and Pitsvada, 1980).

Verne Lewis, in a 1952 article, reviewed the potential utilization of marginal utility theory when he suggested "a basic budget accompanied by alternatives which might be set at 80, 90, 110, and 120 percent of the basic amount" (Peterson and Spain, 1978).

However, Aaron Wildavsky (1975) believes that the zero-base approach goes back to the time of President Eisenhower. Quoting Maurice Stans, Budget Director under Eisenhower, he writes, "Every item in the budget ought to be on trial for its life each year and matched against all other claimants to our resources." Wildavsky adds that such critics would prefer a budgetary process in which coordination would become the explicit concern of a central hierarchy, which would consider a wide range of alternative expenditures and investigate rather fully their probability of automatically be included, each item would be reconsidered newly every year in the light of its relative priority. Instead of a historical base, there would be no base at all; therefore, this comprehensive budget is labeled "zero-base."

It is very well known, however, that the development of ZBB was instituted in 1969 at Texas Instruments, Inc. by a man named Peter A. Phyrr (1970). He supported application of this approach to several departments within Texas Instruments. Later on, he published his experiment in the Harvard Business Review.

As governor of the State of Georgia, Jimmy Carter adopted a ZBB system for the preparation of the 1973 fiscal budget. Phyrr was recruited by Mr. Carter to supervise the task. As President of the United States, Carter adopted the system for the Federal Government in 1976. On February 14, 1977, President Carter introduced it into the federal government, and states such as Illinois and Texas, as well as many cities, followed the federal lead (Granof and Khumawala, 2011). Following President Carter's election defeat in 1980 the federal government abandoned efforts to require its agencies to adopt the system and interest in it waned. Nevertheless, variations on ZBB are still being actively promoted by consulting firms, and although relatively few organizations use ZBB in its totality, many have adopted its key elements.

6.2 Concept

In his message of April 19, 1977 to all heads of executive departments and establishments regarding zero-base budgeting, Bert Lance, Director of Management and Budget, defined a "zero-base budget" as "a management process that provides for systematic consideration of all programs and activities in conjunction with the formulation of budget requests and program planning." (Lyden and Miller,1978). Elaborating on this, Mueller indicates that zero-base budgeting is designed to serve principally as a management told and can also serve to control agency expenditures. Conceptually, it entails a periodic re-evaluation of the whole budget, dollar-by-dollar evaluated from a "zero-base", rather than examining only incremental increases (Mueller 1981).

Zero-base budgeting was developed Peter A. Phyrr. Phyrr (1973) explains that the purpose of ZBB is actually to force management to identify and analysis what they are going to do in total, and consequently, to set goals and objectives, make necessary operational decisions, and evaluate changing responsibilities and workloads as an internal part of the budget process. Phyrr (1977) further speaks of the concept of zero-base budgeting as an attempt to center to center the attention of management on reviewing and evaluating activities and, accordingly, making decisions.

Wildavsky (1979) indicates that ZBB's major declared purpose is to examine simultaneously all programs from the ground up, to eliminate programs existing through inertia which cannot justify their existence, or should exist only at a lesser amount of funding.

In reviewing the concept the ZBB, Wanat (1978) indicates that every fiscal year each and every program must be justified from the bottom up. Just because a program had been funded in the past does not mean that it deserves to be funded again. He adds that 'Since programs have often outlived their usefulness but are still continues, program goals frequently are not achieved. Zero-base budgeting increases the likelihood that dead wood will be culled out of operation."

Mikesell (1982) indicates that every year the system actually challenges and requires defense of all the department programs. The zero-base budgeting system does not presume that an agency will receive at least its prior year's appropriation level. He says that at least in theory, the whole budget must be defended just as if it were the start of new program.

6.3 Procedures

Prior to a discussion of ZBB procedure, it helps to define certain terms that constitute the procedure and talk about the pre-procedure steps.

6.3.1 Definition of Terms:

Decision Unit. A decision unit is defined as, "The program or organizational entity for which budgets are prepared and for which a manger makes significant decisions on the amount of spending and the scope or quality of work to be performed.

Berkely (1981) believes that it applies to any activity large enough, isolated enough, or "meaningful" enough to have and require its own budget. Furthermore, he adds that a decision unit does not have to be big enough to constitute a whole program; a decision unit is often a subprogram, more even less. But the important point is that a decision unit has to possess enough discretion and dimension to warrant its own budget, regardless of its scope. Definite boundaries of decision units are not found, other that they should be big enough to have their own budgets. Therefore, the definition of a "decision unit" may very well be different from one organization to another. It is a "meaningful element" that always follows the main organization line. It is mostly departmental (Phyrr 1973).

Decision Package. The "decision package" is a statement or statements that describe the consequences of performing an activity at a proposed level of funding. It is a particular level of effort by any designated decision unit. It is also a set of alternative combinations of activities designed to meet the unit's objectives. Thomas (1986) states that a decision package should include the following:

1. Purposes
2. Consequences of not performing the activity
3. Measure courses of action
4. Costs and benefits of these alternatives

In describing the function of the decision package, Mueller (1981) indicates that it is designed to describe the basic activities of any organization or agency in some detail. Decision packages are prepared and analyzed by the lowest possible level of management. The actual activities pursued, not the ideals sought, is the "decision package's center of focus.

Ranking "Decision Packages". Ranking is the process by which managers classify program or activity levels in decreasing order of priority. The ranking process sheds light on the relative priority assigned to each "decision package" increment contained in the manager's budget request based on the benefits to be gained at various spending levels and on the consequences thereof.

6.3.2 Pre-Procedure Steps

The following pre-steps are important to mention. They are (1) identification of objectives and (2) determination of results and performance measures.

Identification of Objectives. The identification of objectives is often overlooked in the literature, yet it is essential, Top level management—in cooperation with other management levels—develops organizational objectives. These objectives should be as precise as possible. Identification of objectives definitely enhances the preparation of decision packages by intermediate-level managers and the understanding of the budget request of top-level managers.

Determination of results and performance measures. Standard units to measure results and performance should be determined as close to reality as possible. This again will help intermediate-level management to analyze and develop decision packages.

There are three mains steps for implementing ZBB. They are:

1. Identification of "decision units"
2. Development of "decision packages"
3. Ranking "decision packages"

Identification of "Decision Units. At this stage the agency decides which of its activities should constitute a separate decision unit. Activities which do not constitute a decision unit are segregated and also listed. Those activities which do not constitute a decision unit are them considered part of other activities that do not constitute a decision unit. There are no scientific steps to follow for the process of identifying a "decision unit". Decision units can also be special work assignments. They can also be departmental units or major projects. However, a decision unit should not be too small or too large. The more the number of decision units developed, the more paperwork is produced.

Development of Decision Packages. Translating objectives into tactical plans is accomplished through the decision package. The key elements of a decision package are:

1. The objective or goal of the effort.
2. A brief description of the proposed approach.
3. Alternatives ways considered but rejected.
4. The cost and benefits of the proposed, as well as appropriate quantitative performance measures.
5. An assessment of what will happen if the package is disapproved or not funded.

The process is very much decentralized at this stage. Intermediate levels of management participate in developing packages within the general guidelines of the top level of management. However, the guidelines may very well determine funding level, performance, specific service or output. Kavanagh (2012) states that an organization should at least prepare three decision packages for each decision unit.

1. Base package. This type of package meets only the most fundamental service needs of the decision unit's clientele and represents the minimum level of funding need for the unit's services to remain viable.
2. Current service package. This describes what it takes to continue the level of service currently provided.
3. Enhanced package. This describes the resources required to expand service beyond current levels.

Ranking "Decision Packages". When all "decision packages" are formulated, they are then ranked by the agency manger according to what he or she perceives to be the overall priorities of his or her agency. All decision packages are ranked, first within each decision unit, and then vertically across all decision units in the organizational hierarchy (Williams 1981).

The purpose of ranking decision packages is to indicate the priorities of the agency as to what activities are most important and at which levels of funding. There are essentially four ranking techniques that can be used:

1. The single-criterion technique, where packages are ranked on the basis of one metric.
2. The consensus technique. The key managers review, discuss, and vote on each package in a ranking committee.
3. The major-categories, wherein packages are slotted and ranked within predefined grouping.
4. The multiple-criteria technique, which balances a package's legal, technical, economic, and operational merits.

Following the final ranking of all decision packages for the whole organization, estimated revenue for the department is determined. Lastly, a cutoff line is drawn to distinguish packages that receive funding from those that do not.

6.4 Advantages of Zero-Base Budgeting

1. ZBB forces the top managers to prioritize all their tasks for the benefit of fulfilling the objectives of their organizations
2. ZBB attempts to prevent the budget process from focusing only the program increases
3. ZBB permits comparison between programs to cut off overlapping and waste
4. ZBB permits the participation and control of lower- and middle-level managers in budget preparation

5. ZBB increases the amount of information available to all levels of management
6. ZBB strengthens the planning and analysis roles in budgeting

6. 5 Disadvantages of Zero-Base Budgeting

1. ZBB is a very time-consuming process (Garrison *et al* 2006)
2. ZBB is hard to implement on a very large scale, i.e., the Federal Government
3. Prioritizing (the ranking stage) as a third stage in implementing ZBB may be influenced too much by the amount of funds likely to be available
4. It is argued that annual reviews soon become mechanical and that the whole purpose of zero-base budgeting is then lost (Garrison *et al* 2006).
5. ZBB generates a considerable amount of paperwork and this can also be very costly

Conclusion

The budget is one of the tools used by a government to achieve economic development and sustainable growth through optimal distribution and efficient use of resources. The central concern of this article is to provide a comprehensive discussion on the four approaches to budgeting. Line-item, program and performance, PPBS, and zero-base are budget approaches or budget systems. They all emphasize a certain function of functions of budgeting in an effort to rationalize expenditure.

The approaches were presented here only to attain a better understanding of each one of them. None of them, by any means, is regarded as a complete solution to budget problems. Each system carries its strengths as well as its weaknesses. A solution for any budget problem largely depends on the nature of the particular environment or organization having the problems.

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