

A Budget for All Seasons

MUKDAD M. IBRAHIM

American University of Ras Al Khaimah

Ras Al Khaimah United Arab Emirates

Email: mukdad.ibrahim@aurak.ac.ae

Abstract

The main objective of this article is to study three types of budgetary systems than have been used for the past fifty years. The article is going to discuss the framework of each system, and show the benefits that can be gained from adapting each system. It also highlights the impediments that emerged from using such systems. The implementation of both PPBS and ZBB evinced that both systems suffered from many problems and incremental budgeting is still applicable and useful for all times.

Key Words: *Budgeting, Decision Making, Incremental Budget, Planning Programing Budgeting System, Zero Based Budget.*

Introduction

There are many approaches to explain budget and expenditure levels of government. One of the methods is public finance which draws heavily on economic theory. Another category of budgeting explanations is institutional analysis. The third category is the decision making approach. In this approach, there are two systems of budgeting, rational budget system, such as planning programing budgeting system and zero based budgeting and incremental budget system. For the last sixty years, a central question in budget theory has been whether or not incrementalism best describes governmental budgeting.

Decision Making Approaches

Simon (1957) introduced the concept of bounded rationality. Simon argues that the ability of humans to gather, comprehend and retrieve information from memory and make inference is limited for a number of reasons. First, their environments are exceedingly complex. Second, their mental capabilities are very limited in comparison to the demands of a complex environment. Third, they are constrained by finite resources, from attempting to fully understand environmental complexities. As a result of these limitations, decision makers make decisions only in an intendedly rational manner.

A similar concept has been expresses by Lindblom (1959) who described and contrasted two models of decision making: rational-comprehensive and successive-limited comparisons. The first is completely rational and fit the traditional concept of rational economic man. The second (incremental) is a more realistic description of a feasible decision-making process for complex situation where means and ends are not distinct.

Bounded rationality means that people are limited in their ability to process new information, generate options, and anticipate consequences. The administrator, in Simon-Lindblom descriptions, faces a highly complicated environment where multiple goals and multiple values are related to each other in unknown

ways. One has no reliable way of predicting the consequences of different courses of action. Decision making is made possible in an uncertain world only by simplifying the problem and making marginal adjustments in policies which have been successful in the past.

Incremental decision making was developed not only as a descriptive model of decisions by bounded actors but as a normative mechanism for use in an uncertain world (Lindblom, 1959). If people are handicapped by limited cognition, and if the world is fundamentally complex and ambiguous, then it made sense for decision maker to (Jones, 1999) (a) move away from problems, rather than toward solutions; (b) make only small moves away from the problem; and (c) be willing to reverse direction based on feedback from the environment.

The incrementalist and bounded rationality schools of thought clearly share a number of attributes (Gist, 1989). The most obvious element is the notion that the ability of the human intelligence to collect, sort, and process information is limited, making the attainment of economically rational behaviour impossible. In addition, both schools stress dissatisfaction with the status quo as the stimulant to the search for alternatives. The search behaviour in both is limited to the familiar – the status quo serves as an anchor for search. Both emphasize the interrelations of ends and means and the search for alternatives that “satisfy”, which address the immediate problem adequately, if not perfectly or forever. Finally, both resurrect rationality in a systemic sense by proposing ways in which collectives can overcome the cognitive shortcomings of individuals.

For an incremental budgeting system to work, heuristics, such as those of fairness, precedent and base should be used. These depend upon compromise: specifically, they depend upon the ability of decision-makers to cut the pie into small slices (i.e. pounds or thousands of pounds) in order to give a little here, take a little there, make minor adjustments, split differences,etc. On the other hand, rational budgeting, such as zero based budgeting and planning programming budgeting systems requires something more. It attempts to force such unwanted considerations upon the budget-makers. It explicitly singles out the heuristic of precedent as illegitimate. It demands, through exhortations and through the structure of the program budget, that the value questions which heuristics had buried be exhumed and extensively worried about. It seeks to strip away the basis for routine and conflict-avoidance in budgetary decision-making.

Incremental Budgeting

Wildavsky (1964) identifies four methods that officials have used to decide upon actual monetary expenditure. The first method is one in which budgeting is experiential, relying heavily on experience and on making only the roughest judgements. Secondly, simplified budgeting is used when a very complex issue is under consideration. Thirdly, budgeting officials are satisfied. Calculation may be simplified by lowering one's sight. Officials do not try for the best of all worlds, whatever that might be, but in their words, they try to “get by” to “come out all right”, to avoid trouble, to avoid the worst, and so on. Fourthly, budgeting is incremental. The largest determining factor of the size and the content of this year's budget is last year's budget. Most of the budget is a product of previous decisions. Incremental budget can be described as follows:

1. **Political:** The incrementalists claim that budgeting is a political process. Allocation cannot be made rationally on the basis of the public interest. The political conflict between spending departments and between spending departments and the treasury department can be reduced by an incremental approach because the area open to dispute is reduced. It is easier to agree on small increases or decreases than to compare the worth of one program to that of all others.
2. **Complexity:** In most public organizations, there are a large number of items that should be considered in setting up the budget. Man's ability to calculate is severely limited; time is always in short supply

and pressures from the environment especially from ministry of finance. In this field Lineberry and Sharkansky (1971) state that budgets are complex and detailed documents, and past decisions are most reliable and handiest tools for grappling with complexity. Wolman (1984) shows how increased financial pressure has produced changes in Local Authority structures and processes, in particular the bargaining between service departments and central decision-makers within authority. Davies et al (1986) found that uncertainty was perceived by both councillors and officers as a major in the budgetary process.

3. **Budget Base:** Many of the activities in previous and current years are either mandatory or fundamental to the purpose of meeting organizational goals. In consequences it is necessary to concentrate only on the changes from the previous or current year in setting up the budget.

Fenno's research (1966) on the budget includes a study of thirty-six federal domestic bureaus for the time period 1947 to 1962. Fenno studies the decisions made by the House Committee on Appropriations and found that in seventy-five percent of the cases, the committee either increased or decreased the appropriations for the agencies by twenty percent or less when compared to the final appropriations granted in the previous year. Fenno had clearly established a cut-off point of plus or minus twenty percent to determine whether or not a change could be considered incremental. This determination by Fenno was the first definitive statement on exactly what constituted an "incremental" change: 20%. Fenno's selection of this percentage is arbitrary.

Sharkansky's study (1969) covers eleven periods between 1903 and 1965 and includes all fifty states. In reporting the results, Sharkansky highlighted those instances where the ratio deviated at least fifteen percent or instance where the ratio is less than or equal to 0.85 and greater than or equal to 1.15. He admits his fifteen percent criterion is arbitrary. The results show that in thirty-six percent of the cases the states exceeded the fifteen percent criterion. He concludes that the states exhibit incremental spending patterns over time. In his conclusion, Sharkansky strongly endorses incrementalist theory:

Incrementalism can be casted as both a descriptive model and an explanatory model (Wanat, 1974). As a descriptive model, Incrementalism implies that each year, organizations request more money than they received in the previous year. However, when Incrementalism is put forth as an explanatory model, it must also tell us why budgeting is descriptively incremental. The argument here is that organizations actually live with severe financial, time and information constraints in which it is difficult to follow the rational approach to decision making. Instead, they must simplify decision making by accepting the "base" (or previous expenditure level) of an organization and focusing all attention on requests for new funds (Berry, 1986). Collins et al (1987) found that managers use last period's amounts as a basis or starting point. They prefer to defend existing budgetary levels or seek only incremental changes in their budgetary requests. Ibrahim and Proctor (1995) have tested the use of incremental budgeting on three county councils in the UK. They found that the three authorities use the last year's budget as the base in setting up the budget for the next year.

4. **Roles:** There is a difference in the role played by spending departments and the role played by treasury department officials in the budget-making process. Spending departments act as "advocate" and argue for better service and more expenditure in their area of responsibility, while the treasury department officials are predominantly "guardians" and their task is to ensure that available resources are not exceeded. Savoie (1990) applied the Wildavsky's "Guardian Advocate" framework on Canadian departments. He found that spending departments in Canada act as advocates for their program, while central agencies, such as the Department of Finance and the Treasury Board Secretariat try as best they can to exert control on spending as guardians of the Treasury.

Imbeau (2005) empirically tested of Wildavsky's guardian-advocate model of budgetary process. His hypothesis was that the speeches of ministries of Finance are systematically different from speeches of

ministry of Education or Health on certain specific aspects. To test his hypothesis, he performed the content analysis on 130 policy speeches delivered in the Quebec National Assembly from 1970 to 2004. His conclusion was that there are significant traces of budgetary role-playing in policy speeches in Quebec and that the intensity of role-playing varies with political parties.

5. **Stability:** If the appropriations process excludes deliberation about the base, budgetary outcomes can be assumed to be stable. In another sense, budgeting is stable if the actors in the process do not change very much from year to year. The outcome of the budgeting might be understood as either the absolute allocation level for a service or the service or the service category's proportion of total expenditure.

Rational Budgeting

The central figure in the rational model of budgeting is the rational man, a figure very similar to the classical economic man. The modern man will select the most efficient option, the option that maximizes output for a given input. It is not just efficiency or purpose that gives the contemporary rational model its "rigour". What rationality adds to the "concept of purpose is the concept of consistency", e.g., consistency among goals and objectives and objectives relative to a particular action and consistency in the application of principles in order to select the optimal option (Allison, 1971).

Planning Programming Budgeting System

The Planning Programming Budgeting System was first developed in the government sector in the U.S. Department of Defence at the instigation of the RAND Corporation in the early nineteen sixties (Douglas 1995). In August 1965, President Johnson ordered the implementation of PPBS throughout the U.S. Federal Government (Gray 1979). In his statement to Cabinet Members and Agency Heads he was little more precise in claiming potential benefits from PPBS:- "It will enable us to :-

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

Peterson (1971) described PPBS as attempting to provide a rational framework to join planning, management, and operational control with the budgeting and information system. Castello (1973) described PPBS as a refinement of existing procedures rather than a new approach. It assesses the total costs and benefits, both current and future, of various options. It also endeavours to determine rates of return on the programs. Freeman and Shoulders (1999) Stated that PPBS emphasizes long-range planning in which (1) ultimate goals and intermediate objectives must be explicitly stated, and (2) the costs and benefits of major alternatives courses to achieve these goals and objectives are to be explicitly evaluated – in quantitative terms where practicable and narratively in all cases.

This system relates three factors: a desire outcome (planning), the structuring of methods of achieving the outcome (programming) and the funds available to accomplish the end result (budgeting), (Garbut and Minmier, 1974) (Douglas, 1995). It is based on the dominance of the planning function and attempts to make government operations more efficient and effective by improving the allocation of public resources between competing needs. PPB Systems focused more on the objectives rather than the base and increments. It is therefore, a mean linking the planning and budgeting in a single process.

The Sequence

PPB System comprises a sequence of stages (LAMSAC, 1972):-

Stage 1: Identification of Strategic Problems. An authority needs an information system that informs it of new or changing problems in the environment and about how effectively it is performing its current activities so that the need for policy changes is clearly recognized.

Stage 2: Definition of Objectives. Once an authority has understood the nature of the problem facing it, it should decide its objectives. Unless an Authority has explicit objectives, it has no yardstick against which to judge the effectiveness of the alternative policies.

Stage 3: Preparation of the program structure. The program structure breaks down each major objective into sub-objectives, and arranges groups of activities (programs) under them that contribute to the attainment of each objective. The program structure proceeds from objectives at the top through sub-objectives and programs, to detailed activities at the bottom. Programs may be complementary or provide alternative ways of meeting objectives.

Stage 4: Program Analysis. Once the full range of programs for meeting an objective has been arrayed, it is necessary to assess the effectiveness of each in meeting the objective. The Authority may be looking for the program that gives the best performance for a fixed sum of money, or for the program that gives a specified level of performance at a minimum cost.

Stage 5: The Corporate Plan and Program Budget. If the procedure so far described is to influence Local Authority policy and planning, it must be firmly linked to the budgetary process. This is done through the "corporate or program plan" and the associated program memoranda. This is a statement of all the resource costs and expected output of an Authority's programs for the next and subsequent years.

Stage 6: Implementation and Monitoring of Performance. The information on output contained in the corporate plan and in background papers is a guide to those charged with implementing policies, and provides members and senior officers with target against which they can check actual performance.

Impediments to the Implementation of PPBS

Freeman and Shoulders (1999) identified six limitations that prevent implementing the PPB system:

1. It is quite difficult to formulate a meaningful explicit statement of a government's goals and objectives that can be agreed upon by all concerned.
2. Not only goals change, but elected officials in particular, often prefer not to commit themselves to more than very general statements lest they be precluded from changing their positions when politics dictates.
3. The time period considered relevant by an elected officials may be limited to that remaining prior to the expiration of his or her current term of office-resulting perhaps, at least subconsciously, in a greater interest in short-run costs and results than in long-run costs or results.
4. PPB System assumes both an adequate data base and a high level of analytical ability to be readily available to the government. Relatively few states or local governments have sophisticated program data or the luxury of sophisticated program.
5. It is difficult to measure the achievement of the objectives since both costs and benefits, over a period of a several years, must be estimated. Both are often quite difficult to measure and the ratio or relationship between two such estimates is apt to imply far more precision than actually exists.

6. Despite its planning strengths, the PPBS focus on program differs from the departmental object-of-expenditure control orientations of most legislatures and chief executive. Indeed, many of these officials view PPBS as a threat to their "power of the purse strings"

Fincher (1978) found that PPBS could not succeed because of the peculiar labour-intensive characteristics of colleges and universities. PPBS failed because of its inability to deal with the individual bargaining power of faculty members and the cumulative effect of budgeting cycles on faculty salaries.

Vanderbit (1977) outlined a number of fundamental reasons why fully developed performance and PPB systems in local governments were not in use. First, each of the approaches requires a great increase in information gathering and processing which could not be supported by the accounting and management information systems. A second reason is that PPB system requires over-use of the budget process. A third reason is that PPB system is expensive to operate.

Schick (1973) stated that PPB died of multiple causes, any of which was sufficient:

1. PPB died because of the manner in which it was introduced.
2. PPB died because new men of power were arrogantly insensitive traditions, institutional loyalties, and personal relationships.
3. PPB died because of inadequate support and leadership with meagre resources invested in its behalf.
4. PPB died because good analysts and data were in short supply and it takes a great deal of time to make up the deficit.

Zero Base Budgeting

In the late 1960s, the concept of zero-base budgeting was introduced. This gained much recognition in both public and private sectors. The idea was proposed by President Carter in 1977 to various Federal Agencies as a modification of the more conventional budgeting procedures presently followed by those Agencies.

Zero-base budgeting is a budget-planning procedure for the revaluation of an organization's program and expenditure. It requires managers to justify the entire budget request in detail and places the burden of proof on the managers to justify why authorization to spend any money at all should be granted (Matz & Usry, 1980). Zero-base budgeting requires that old programs compete on an equal footing with new programs. Priorities are established each year, and changes in the budget necessitate a realignment of resources in accordance with changing priorities (DeCoster and Schafer, 1976). Under ZBB, a program's existence is not guaranteed; in each budget cycle the program manager starts over from "zero" and projects various levels of expenditures at which a given program or service could be offered (Douglas, 1995). Modern (1986) states that zero-base budgeting forces managers and administrators to consider different ways of achieving their objectives and makes them justify the activities that they currently undertake. It can therefore have the potential to make a significant contribution to the achievement of the more rigorous budgetary planning and control that are now prerequisite of contemporary administrative environments.

The following steps compose the basic elements of zero-base budgeting:-

1. **Establish Goals and Objectives:** The zero-base involves all levels of management starting at the top. Top management must initiate the preparation of budgets by providing guidance as to the goals and objectives of the organization. This initial top-down communication is crucial to the rational budgetary process. Top level management will first communicate the goals and objectives of the organization to the lower levels of management. Lower level will then specify to top management the programs that they believe most appropriate in achieving the goals and objectives of the organization. Thus without the early development and communication of the goals and objectives by the top levels of management to the lower levels, the planning and budgeting process cannot work effectively.

2. **Identify Decision Units:** The development of the “decision packages” is crucial to the zero-base process. These decision packages serve as the blocks of the process. They provide a description and evaluation of each decision unit subjected to management review. The decision unit has to be defined for each organization so that it can be isolate for analysis and decision making. It is important to note that decision units are literally decision “units” – units of activities that can be analysed and in which discretionary decision can be made. Ideally a decision unit should have the following characteristics (Jones and Pendlebury, 1984):
 - (a) A specific manager should be clearly responsible for the operation of the program.
 - (b) It must have a well-defined and measurable impact.
 - (c) It must have well defined and measurable objectives.
3. **Development of Decision Package:** A decision package is a document that identifies and describes discrete activities, function, or operation in such a manner that a management can evaluate it and ranks it against other activities competing for limited resources and decides whether to approve or not support it.
4. **Rank the Decision Packages:** The ranking establishes priorities among the functions described in the package. All levels of management become involved in the ranking process. Since all packages are compared and ranked against all others, management can feel assured that it is funding the most important packages, whether ongoing or new.
5. **Allocate Funds Accordingly:** Top management can allocate funds to highest priority packages until the limit in spending is reached.

Numerous benefits have been attributed to the zero-base budgeting process. Peter Pyhrr (1973) identified several of these benefits, based on his work at Texas Instruments: (Reed, 1985),

1. The identification, evaluation, and justification of all activities promoted a more effective allocation of resources.
2. Top management had greater flexibility in budgeting because activities were presented in consolidated rankings.
3. New programs could be more readily funded by eliminating or reducing current activities.
4. Duplications of effort, improper planning, and poor coordination could be more easily identified and corrected.
5. Revisions in expenditure levels or particular decision packages could be affected without altering the entire budget.
6. Workloads and costs contained in the approved decision packages subsequently provided on the basis for control.
7. Managers continued to evaluate the efficiency and cost-effectiveness of their activities during the operating year.

Minmier cited three advantages that resulted from the employment of ZBB in Georgia (Reed, 1985):

1. A financial planning phase was established prior to the preparation of the budget. In the past planning and budgeting activities had been conducted concurrently.
2. The quality of management information improved and greater insight was provided into the function of state government.
3. Personnel at the activity level furnished input for the budget process.

Obstacles to the successful Implementation of ZBB

Anthony (1977) claims that zero based budgeting is fraudulent due to its apparent inability to deliver a complete review of expenditure, unrealistic because its methodology cannot work, and unmanageable because of the large amount of paperwork.

Wildavsky (1979) criticizes Zero-base Budgeting because it is unrealistic to think that all programs can be effectively analysed from zero. Moreover, where ZBB has been tried, certain minimum levels of ninety percent or ninety five percent of the base level have been used as benchmarks for compiling the budget. ZBB requires a huge amount of information and the ranking of different programs. Wildavsky maintains that these volumes of information do not aid calculation.

Boyd (1982) evaluated the use of zero based budgeting by the state universities of Texas. He found that using ZBB was no better or worse than the technique which preceded it. He neither condemns nor praises ZBB as used. Boyd believes that the concept of ZBB failed to achieve the high expectations that were associated with its implementation.

A study conducted by the state of Texas in 1977 to investigate the degree of association between individual attitudes towards ZBB system and the role played by individual in the budget process (Reed, 1985). The majority of the responding budget advocates stated that they observed few tangible benefits from Zero-base budgeting other than a greater involvement of management in the budget process and increased personal knowledge about agency programs. Budget advocates also believed that the new budget system (ZBB) consumed a tremendous amount of their time.

Elcock et al (1989), state that, by mid-1980, PPBS and its associated corporate management had become widely discredited. Some Local Authorities in UK are still experimenting with Zero base Budgeting but its usefulness is limited, for two main reasons. First, the demands that scrutiny of the budget "base" impose on both officer and politicians is excessive, even impracticable given the other pressures on them. Secondly, the amount of paper generated by even a modified ZBB exercise tends to be too great for those at the authority's centre to digest: 600 pages for one relatively small district council. Douglas (1995) stated that while ZBB and PPBS systems have been implemented at various levels of government, none has been used with continuing success. They are difficult to understand and, with understanding, easy to manipulate. Most oversight boards tend to revert back to incremental budgeting. Cothran (1993) stated that PPBS, Management by objective, and Zero based budgeting are difficult to put in practice since it requires measures of performance and outcome that are not always easy to construct for government programs. Rege (1986) concluded that both the systems have been extensively used and have received the widest possible publicity. However, experience has shown that these concepts are not as comprehensive as they were initially believed to be.

Conclusion

Different budgeting systems have been used over the past fifty years to force department heads to follow the rational steps in planning and controlling their budgets. The planning programming budgeting system was developed in the 1960s and is associated with President Johnson's reforms of the military. This system gives importance to long-run consequences of alternative courses of actions. PPBS failed to integrate planning and budgeting by using system theory and cost-benefits analysis. There are two main reasons behind this failure. First, different organizations and committees had their influence on the budget. Second, organizations that followed PPBS had lacked the clear objectives and technical expertise. Government and some business organizations started using ZBB in the 1970s. In this system, the budget for any activity at the start of each year is set at zero. Cost/benefit analysis will justify the continuing of the existing program or activity. ZBB was failed because of its inability to reduce the program costs. The cost of the paper work

under ZBB was significantly increased due to use more paperwork. Moreover, ZBB failed to isolate the objectives of one activity from others when considering the budget.

Both systems were termed revolutionary in that they were both expected radically to influence the financial decision-making of government. Both systems tie costs to benefits by means of cost/benefit analysis and both stress the planning function. The real difference between PPBS and ZBB is the requirement of ZBB to formally rank-order (prioritize) all programs and activities. This was never a requirement of PPBS. Incrementalism is clearly the dominant model for budgeting and expenditure decisions in the literature. Many studies have confirmed that the descriptive model of Incrementalism accurately characterizes budgeting in United States, United Kingdom and Canada.

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