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1

Performance Budgeting Models and Mechanisms

Marc Robinson¹

This chapter aims to achieve two tasks. The first is to provide a clear definition of performance budgeting. The second is to provide a taxonomy of forms of performance budgeting.

The definition of performance budgeting put forward is a broad one. It refers to public sector funding mechanisms and processes designed to strengthen the linkage between funding and results (outputs and outcomes), through the systematic use of formal performance information, with the objective of improving the allocative and technical efficiency of public expenditure. "Performance information" in this context refers, first, to information on results achieved by public expenditure and, second, to information on the costs of achieving those results. In what follows, this definition is contrasted with some alternative views of what performance budgeting means.

Providing a taxonomy of performance budgeting is important because there are a range of performance budgeting models, which differ to varying degrees in respect to the objectives which they emphasize, the manner in which they aim to link results and funding, and the type of performance information upon which they rely. If the efficacy of these alternative models is to be analyzed with any precision, it is necessary to make clear their component elements. For this purpose, the chapter identifies the following four fundamental mechanisms used in performance budgeting systems:

- Program budgeting, which uses information about the costs and benefits of the objective-based ("program") expenditure categories for expenditure prioritization
- Funding-linked performance targets, which seek to link the level of funding
 to results targets—that is, to quantitative statements of the output and/or
 outcome the agency is expected to deliver.

- Agency-level budgetary performance incentives, which aim to motivate agencies to perform better by rewarding agencies financially for good performance (and possibly also by financially sanctioning unsatisfactory performance).
- Formula funding, in which funding provided is made an explicit function of measures of expected and/or actual results (usually outputs, but sometimes outcomes).

Each of these mechanisms may be sub-classified further. It is particularly important to distinguish between models of formula funding which are *cost-based* and those which are not. (In its simplest form, cost-based formula funding is funding calculated by multiplying expected/planned output quantity by unit output costs.)

This chapter suggests that each of the diverse range of performance budgeting systems which may be observed across the world at the present time, or which have existed historically, are based on one or more of these four fundamental mechanisms. For example:

- Contemporary *target-based performance budgeting systems*, of which the UK Public Service Agreement system is perhaps the most important example, typically combine funding-linked performance targets with a program budgeting mechanism.
- Purchaser-provider performance budgeting—under which agencies are paid "prices" for the results (usually outputs) which they deliver—combine cost-based formula funding with agency-level budgetary performance incentives.

Performance budgeting and its relation to "managing-for-results"

The definition of performance budgeting advanced above embodies a quite general notion of performance budgeting which encompasses a diverse range of specific performance budgeting systems. It is also quite close to the definitions put forward by others including, for example, the OECD ("a form of budgeting that relates funds allocated to measurable results" (OECD, 2003, p. 7)) and the US General Accounting Office ("the concept of linking performance information with the budget" (GAO, 1999, p. 4)).

It is a definition which needs to be supplemented by noting that almost all forms of performance budgeting have one additional point in common—an emphasis on the importance of managerial freedom in budget management. Concretely, this manifests itself in hostility to the traditional budgeting practice of appropriating agency budgets by detailed input categories (wages, supplies, travel, and so on) and banning agencies from shifting money between those input categories (a practice widely known as "line-item" budgeting). Such controls are viewed by performance budgeting proponents as barriers to good performance. The performance budgeting focus is upon accountability for results produced, rather than on control of how those results are produced.

A crucial feature of the way performance budgeting is defined in this book is that it focuses on the use of performance information *in budgeting and funding*,

rather than in public management more generally. In recent decades, performance budgeting has often been adopted as part of a broader set of management and budgetary reforms designed to improve the efficiency and effectiveness of the public sector and/or to facilitate the achievement of fiscal sustainability. Many of these reforms fall into the category of what has often been referred to as managing-forresults (Poocharoen and Ingraham, 2003), while others take focus in different but complementary directions (for example, introducing increased consumer choice and competition). Managing-for-results—also sometimes referred to as "performance management"—can be defined as the use of formal performance information to improve public sector performance. Its fundamental starting point is maximum clarity about the outcomes which government is attempting to achieve, and about the relationship of outputs and activities to those desired outcomes. Often, this is linked with broader strategic planning models incorporating significant elements of private sector corporate planning practices. Managing-for-results also tends to emphasize the ex-ante stipulation of performance expectations for agencies, work units and individuals through the use of performance targets and standards. A standard element of the "strategic human resources management" component of managing-for-results is the introduction of stronger performance-based extrinsic incentives (rewards and sanctions) for public officials. The other crucial element is the call to "let the managers manage"—to strip away procedural controls which are seen as having encumbered management in the past. This calls, in the recent words of the British Chancellor of the Exchequer, for "a bonfire of the old input, interventionist, departmentalist controls over front line public service managers—which is too often what they still find frustrating" (Brown, 2003).

The close relationship between managing-for-results and performance budgeting is obvious. The performance budgeting demand for freedom from detailed budgetary line-item controls is, for example, one element of the broader "let the managers manage" theme. Similarly, the notion of funding-linked targets for agency outputs/ outcomes is a specific budgetary application of the broader managing-for-results notion of using target-setting to improve public management.

It is therefore not surprising that some have defined performance budgeting in such a way as to equate it to the overall managing-for-results package of reforms. However, much of the managing-for-results package is not concerned with budgeting at all (for example, the use of non-financial rewards and sanctions for measured agency performance, and the use of performance targets in human resource management). If defined this way, performance budgeting ends up being seen as something which is not integrally about budgeting, or perhaps not even about budgeting at all.²

The view taken here is that, despite the close relationship between contemporary approaches to performance budgeting and the broader managing-for-results package, performance budgeting should be seen as a distinct element within the broader picture, the defining characteristic of which is that it is concerned with the budgetary use of performance information—that is, its use in budget formulation and execution.

Two other features of the definition of performance budgeting employed here are worth mentioning. The first is that it is a definition which is wider than that employed by those who consider performance budgeting to be concerned only with the use of performance *measures* in the budget. It is true that performance measures are a necessary and fundamental element of the performance information required by any performance budgeting system. However, the type of "performance information" used in performance budgeting systems in many cases goes beyond performance measures to include, for example, program evaluations and other analytic techniques (for example, cost-benefit analysis). In many contexts, performance measures can provide a starting point in making decisions, and need to be used in conjunction with other types of performance information. Thinking of performance budgeting simply in terms of the use of performance measures in budgeting has perhaps led some analysts to look for a direct or even mechanical link between measures and budget decisions which it is not always reasonable to expect.

The final point is that the definition put forward is one that does not restrict the performance budgeting concept to resource allocation decisions made in the formulation of the government-wide budget. Rather, it is relevant also to the way in which agencies execute their budgets—either when allocating resources internally or when distributing funding to lower-level public sector entities which they supervise.

Against this background, we can proceed to delineate the key performance budgeting mechanisms.

Program budgeting and expenditure prioritization

Program budgeting is the performance budgeting mechanism which has had the most enduring influence. As the term will be used in this volume, program budgeting comprises (a) the objective-based ("program") classification of expenditure and (b) the systematic use of performance information to inform decisions about budgetary priorities between competing programs. Program budgeting made its true debut with the Planning, Programming and Budgeting System (PPBS) introduced in the US federal government in the 1960s, although its core themes had much in common with other earlier strands of performance budgeting.3 The primary objective of program budgeting was improved allocative efficiency through better expenditure prioritization. The driving concern was a belief that expenditure allocation in the public sector was insufficiently responsive to changing social needs and priorities, and that money could keep flowing year after year to ineffective programs because of a lack of proper expenditure planning processes or of accountability for results linked to the budget process. Program budgeting exponents viewed traditional "line-item" budgeting (see above) as a key part of the problem. More generally, they viewed traditional budgetary processes as inherently "incrementalist"—that is, as characterized by a tendency for the "base" funding of established agencies and programs to be unthinkingly renewed year after year.

Program budgeting aimed to change all this through a system in which expenditure would be planned and controlled by objective. The basic building block of this system was the classification of expenditure into *programs*—"objective-oriented classifications so that programs with common objectives…are considered together"

(Carlson, 1969, p. 617)4—with the objectives of of each program being explicitly defined. The program classification of expenditure is intended to facilitate "major allocative decisions" such as "should more resources be employed in national security in the future, or in national health programs, or in the preservation and development of natural resources" (Fisher, 5 1967, p. 63).

As its name indicates, PPBS went well beyond the core elements of program budgeting defined above. It was, indeed, much more than a budgeting system: it aimed to be an integrated expenditure management system in which systematic policy and expenditure planning would be developed and closely integrated with the budget. PPBS aimed, as Schick (1971, p. 212) put it, "to move planning from the periphery to the center of budget operations." Expenditure planning under PPBS was also intended to be multi-year in nature (usually based on a five-year plan) (McKean and Ashen, 1967). The emphasis upon planning within the PPBS system reflected the mood of the time, in which indicative economic planning enjoyed considerable international popularity. PPBS also placed great emphasis upon systematic, in-depth analysis of the costs and benefits of programs as the basis for expenditure decisions.

Particularly after the introduction of PPBS in the US, program budgeting enjoyed almost immediate international popularity and was over time adopted by many other advanced and developing countries (Axelrod, 1988, pp. 272-3; Premchand, 1977). In France, for example, it was adopted enthusiastically—reflecting its resonance with the traditions of state economic planning and calcul économique—in the form of Rationalisation des Choix Budgétaires (Huet, 1971; Toulemonde and Rochaix, 1994, p. 38). Its spread through the developing world was encouraged by the advice of international organizations such the United Nations (UN, 1965), the World Bank, and the IMF. Even today, there are many governments which use the "program budgeting" label for their performance budgeting systems.⁶ The contemporary influence of the basic program budgeting idea is, however, much wider than the continuing use of the label. If defined in terms of the two core elements identified above, program budgeting is an element of many contemporary performance budgeting systems which also make use of other mechanisms for linking funding and results (such as funding-linked performance targets). The extent of the ongoing influence of program budgeting is partly obscured by the wide variety of terminology used today to refer to programs—such as "outcomes" or "output groups" (Australia) and "Requests for Resources" (UK) (see the discussion of program classification in Chapter 5).

The core informational requirements of program budgeting are information on (a) the results achieved by programs and (b) the resources consumed to deliver the program. From the outset, a diversity of approaches to the performance information existed. One approach—represented, for example, by the UN Manual for Programme and Performance Budgeting—placed overwhelming emphasis upon performance measurement. In this view, "the primary objectives are to obtain physical measures of work effort and results, and to establish pertinent relationships with the use of resources, so as to provide data that will help in developing and presenting budget proposals" (UN, 1965, p. 48). By contrast, PPBS and its derivatives went much further in emphasizing "scientific decision-making for allocating public funds" (Toulemonde and Rochaix, 1994, p. 38). This meant that systematic and formal "analytic processes" such as cost-benefit analysis, cost-effectiveness analysis, systems analysis and operations research were to be used for this purpose (Steiner, 1967, p. 311). PPBS, as a senior US budget official put it at the time, was "premised on the belief that the expansion of our knowledge in the social and physical sciences and of the sophistication and quality of data holds great promise for improving specific decisions of Government" (Carlson, 1969, p. 615). This highly formal PPBS approach to program performance analysis—to what will be referred to in this volume as evaluation—has not generally survived. As discussed in Chapter 3, there has been a loss of faith in the "scientific" approach to evaluation. Beyond that, however, approaches to the assessment of program performance have varied over time and between countries. During the 1980s, for example, program evaluation enjoyed renewed popularity in a many countries, albeit in a rather different form from the PPBS. From the mid-1990s, performance measures rather than broader evaluation became the main focus in most countries. However, as noted in Chapter 3, there are now signs of a new resurgence of interest in program evaluation as an important element of the budget process.

Another area where contemporary program budgeting practice often differs from the PPBS model is in respect to the nature and role of planning. Support for comprehensive strategic planning based on highly formalized processes also tends to wax and wane. It has probably enjoyed the most consistent support in the United States, where strategic planning essentially based on the so-called Harvard policy model (Bryson, 1988) is a core part of the Government Performance and Results Act (GPRA) 1993, which sets the framework of contemporary performance management in the US federal government (see below and Chapter 10). As mentioned above, there are some who view strategic planning as a defining element of performance budgeting. However, such a view is not consistent with the diversity of international performance budgeting practice and opinion. Thus, for example, Australia moved from imposing compulsory prescriptive strategic planning procedures upon agencies in the 1980s and early 1990s, to an approach which left strategic planning largely up to the agencies (in line with a new "purchaser-provider" model of performance budgeting which tended to conceptualize agencies as more like standalone businesses).

Views on the usefulness of formal strategic planning in government tend to be rather polarized. Some take the view that in practice it is usually a resource-intensive exercise with little impact on actual practice. Such views reflect, in part, the skepticism of certain key contributors to the debate on corporate planning in the private sector (for example, Mintzberg, 1993). Others would, however, argue that some form of strategic planning is essential in order to promote both a focus on objectives and a longer-term perspective. Whatever one's view of the desirability and appropriate form of strategic planning, however, it would be a mistake to view it as a defining and essential element of performance budgeting.

Expenditure prioritization at the margin

Budgetary decision-making is usually much more focused on whether to increase or reduce program expenditures than on whether to abolish programs altogether. Expenditure prioritization decisions are, in other words, generally made at the margins. Basic microeconomics teaches that allocative efficiency is realized by equating the marginal utility per dollar (in a public sector context, the marginal social benefit/marginal social cost) of every product. Program budgeting does not, however, incorporate any formal methodology for marginal decision-making. It is therefore not surprising that a number of forms of performance budgeting emerged which attempted to remedy this perceived defect by proposing formal methodologies for expenditure prioritization at the margin.

There are a number of forms of what might be called marginal prioritization techniques. The most well-known of these is zero-base budgeting (ZBB)—a budgeting methodology with private sector roots (Phyrr, 1973) which was formally adopted by the US federal government under President Carter in the late 1970s, and subsequently by governments elsewhere in the world. As initially applied within the public sector, it called for all programs to be decomposed into "decision packages" (also known as "service increments") which would constitute "a series of optional funding levels from the presumed base of zero to and beyond the current level of service" (Cleaveland, 1979, p. 15). Priority rankings would be attached to these decision packages, and these rankings would then be used to ensure that the available level of revenue funded those decision packages which were of highest priority. In this way, ZBB would enable "rational shifting of funds from one program to another on the basis of relative priorities" (Cleaveland, 1979, p. 20), based upon "the systematic application of marginal analysis techniques to budget formulation" (Taylor, 1977, p. 3).

In its pure form, ZBB—as its name suggests—required the review and justification of all public expenditure every year. However, reflecting the practical difficulty of undertaking a task of this magnitude annually, in practice ZBB tended to evolve into what has been referred to as "alternative budgeting" (Axelrod, 1988, p. 300). As Lewis (1988, p. 14) put it, this

focused not on a zero base but on the margins near the current budget base. Usually three or more alternative budgets have to be submitted for each program ("decision packages" in ZBB terminology). Generally, at least one of the alternatives has to be less than the current budget. Often a specific percentage reduction is mandated.

A very similar methodology—so-called "program budgeting and marginal analysis" (PBMA)—remains in active use as a priority-setting framework (particularly at the regional level) in the health sector in certain countries, having been originally developed in the mid-1970s (Mitton and Donaldson, 2001). However, at the level of government-wide budgeting marginal prioritization techniques have for the most part fallen into disuse over recent decades.

As is made explicit in the case of PBMA, these marginal prioritization techniques may be viewed, in a public sector context, as variants of program budgeting because, in the main, they envisage that the "decision packages" for marginal analysis would be identified *within* program (that is, objective-based) expenditure categories. For this reason, marginal prioritization techniques are viewed in this chapter not as a fundamental mechanism of performance budgeting, but as a refinement (and therefore a sub-category) of program budgeting.

The minimum performance information requirements for the application of marginal prioritization techniques exceed those of mainstream program budgeting (at least in its usual contemporary form) because they require information not only on the benefits and costs of the program as a whole, but on the marginal changes in benefits and costs associated with the various "decision packages" under consideration.

Budget-linked performance targets

As noted at the outset of this chapter, the setting of performance targets—that is, explicit (mainly quantitative) stipulations of expected levels of performance—has for some time been an influential *managing-for-results* theme. Target-setting can aim to improve either or both effectiveness (through outcome targets) and efficiency (through output targets). The roots of the current popularity of target-setting go back at least to the influence of "Management by Objectives" in the 1970s. In recent times, the US GPRA (see Box 1.1) has been particularly influential internationally in spreading the idea of target-setting, together with a range of other performance management techniques. Another influential contemporary theme has been the use of so-called "contracts"—whether between agencies and ministers, between ministers and chief executives, or between civil service managers and their staff—to formalize performance targets.

The setting of performance targets does not, however, in itself constitute performance budgeting. Performance budgeting is about linking funding and

Box 1.1 The Government Performance and Results Act (GPRA), 1993

Under the US federal "Results" Act, agencies are required to prepare:

- A strategic plan, usually on a five-year timeframe, which states mission, goals, and objectives, and the strategy for achieving those goals and objectives. Detailed procedural guidelines govern the way in which this strategic plan is to be prepared, setting out such matters as requirements for consultation with "stakeholders." The agency must also indicate their plans for program evaluation.
- An annual performance plan, which must set measurable performance targets, and outline the managerial approaches to be taken to realizing objectives and goals with the annual timeframe.
- An **annual performance report**, comparing actual performance to targets, explaining any failures to achieve target levels of performance, and outlining actions to be taken to prevent further failure in the future.

results. Advocates of target-based performance budgeting focus on the integration of budgeting and target-setting—that is, on the calibration of performance targets to the level of funding. The need for such integration has been a major theme of the "budget and performance integration" initiative of the Bush administration in the United States. It had been an express objective of GPRA at the time of its inception that target-setting and other GPRA performance management processes would be integrated with budgeting. It is widely agreed, however, that this happened only to a very limited degree (GAO, 1999) and that, in particular, performance targets under GPRA tended to be set without much relationship to the level of budgetary resourcing provided. Addressing this perceived problem, President Bush's first budget stated that, in order "to strengthen the linkage between budget decisions making and program performance," performance targets "compatible with funding levels" would henceforth be set as part of the budget process (US Government, 2002, p. 12). (The way in which the administration attempted to do this, and the extent to which it succeeded, are the subject of one of the case studies in this volume.) The budget and performance integration initiative followed the approach introduced in a number of US states in the 1990s. In the Florida "performance-based program budgeting" system of the late 1990s, for example, the intention was that "appropriations acts [would]...set performance standards [that is, targets] for each output and outcome measure" which "describe the level of performance the Legislature expects programs to attain with the resources it provides to them" (OPPAGA, 1999, p. 2).

Internationally, the British Public Service Agreement (PSA) system—discussed by Peter Smith in Chapter 12—is today perhaps the most large-scale exercise in targetsetting broadly linked to the budget process. The PSAs are documents which set out for each agency key objectives and a number of targets. These "headline" targets are relatively small in number (110 in total for the 2005-08 PSAs), and the great majority of the targets are outcome targets. For example, there are numerical targets for improving the literacy and numeracy outcomes of school children, halting the rise in child obesity rates, and reducing mortality rates from heart disease and cancer (HM Treasury, 2004). The process of PSA target-setting is closely linked with the (multi-year) budgeting process (see Box 1.2). The context of the introduction of the

Box 1.2 Target-setting and the budget process in the British PSA system

- "...decisions on budgets and targets are made alongside each other and are considered by the same Cabinet committee. So the negotiation of outcome measures is part of the budgeting process."
- "To inform the discussions of the Cabinet committee, departments are asked to provide information on the outputs or improvements in outcomes that any additional money requested would buy."
- "The White Papers which announce the new expenditure plans and the new PSAs are published as part of the same budget announcement."
- "The progress against targets provides a background to decisions on resources in the following budgeting round."

Source: HM Treasury (2000, pp. 10-11).

Agency-level budgetary performance incentives

One widely-held notion of performance budgeting emphasizes budgetary rewards (or sanctions) for performance—in other words, mechanisms whereby strongly performing programs or agencies receive additional budget funding, and poor performers lose money. The defining characteristics of such agency-level budgetary performance incentives are, first, that the results/funding linkage is retrospective it flows from actual past performance to future funding-and, second, that the assumption is that the link between agency funding and performance will act as a strong motivator for better performance. The second point is particularly crucial. Program budgeting, for example, aims to link past performance and future funding, because it uses information on past performance (together with other information) to make judgments on future program funding. However, this type of linkage between past performance and future funding is not about creating incentives, but is rather entirely about allocative efficiency through better expenditure prioritization. By contrast, the newer idea of agency-level budgetary performance incentives is part of the broader contemporary emphasis on sharper financial incentives for performance in the public sector, and in a sense represents an application at the agency level of the notion of individual performance pay.

Financial incentives of this type have been widely used in sectoral formula funding systems. For example, funding systems for public universities in a number of countries have incorporated formularized funding rewards based on measures of outcomes achieved, such as graduate employment rates, graduate salaries, as well as for certain outputs such as research (Wellman, 2001; Carnevale et al., 1998). In this and similar schemes which have operated in other sectors, such incentive funding takes the form of "bonus" funding which is a supplement to core funding.

Attempts have been made to apply the performance bonus approach at the level of the government-wide budget. Thus, for example, a handful of US states have legislated provisions for performance-based financial incentives for budget sector government agencies (see Box 1.3).

The Canadian province of Ontario recently experimented with a somewhat different approach to performance bonus funding, starting with a cabinet-level assessment of the performance of the government as a whole, and then a judgment as to how good each department's performance had been—leading to an award of a performance bonus to each department (GAO, 2002, p. 20). These types of system aim to provide performance incentives which are discretionary rather than formula-based.⁸

Box 1.3 Performance rewards and incentives in the Florida performance budgeting system

Under the Florida Performance-Based Program Budgeting system, the Governor may (Section 216.163(4), Florida Statute) recommend to the Legislature the following rewards and sanctions for measured performance:

Incentives

- Additional flexibility in budget management
- Additional flexibility in salary rate and position management
- Retention of up to 50% of unexpended and unencumbered balances of appropria-
- Additional funds

Disincentives

- Mandatory quarterly reports to the EOG and the Legislature on the agency's progress in meeting performance standards
- Mandatory quarterly appearances before the Legislature, the Governor, or the Governor and Cabinet to report on the agency's progress in meeting performance standards
- Elimination or restructuring of the program
- Reduction of total positions for the program
- · Restriction on or reduction of spending authority
- Reduction of managerial salaries

Source: Florida Government Performance and Accountability Act, 1994.

Performance budgeting based on formula funding

Another instrument of performance budgeting is formula funding. As is made clear in Chapter 15, formula funding is a tool with a number of public sector applications, some of which have nothing to do with performance budgeting. When used as a performance budgeting instrument, however, formula funding may be defined as intra-public sector funding arrangements in which:

- funding provided is an explicit (that is, algebraic) function of measures of expected and/or actual results—that is, of measures of outputs and/or outcomes, and
- the objective of this linkage is to boost performance and/or improve allocative efficiency.9

It is possible to determine either the totality, or only part, of the funding of agencies on a formula basis. Formula funding may, moreover, be based upon either the expected or the actual results of the agency concerned. To base funding upon expected results means setting an agency's funding as a function of the results it is considered that the agency should be able to deliver with that funding in the coming budget year (without there necessarily being any attempt to adjust the agency's funding

after the event if actual results differ from what is expected). This is equivalent to setting a performance target closely linked to the funding level. By contrast, to base formula funding upon *actual* results means determining some part of an agency's funding on a retrospective basis reflecting the results which it actually delivered in the previous year—which takes one into the realm of financial incentives for performance, discussed further below.

As mentioned at the outset of the chapter, it is important to distinguish between funding formulas which are cost-based and those which are not.

Funding formulas for the purpose of linking funding to *expected* results are in general based upon measures of the costs of delivering those results. ¹⁰ Commonly, the focus is upon the use of "*unit cost* information...to determine the relationship between changes in the cost of program services and the outcomes [or outputs] obtained from these services" (OPPGA, 1999, 2001). The unit cost budgeting idea, in its simplest form, is to use the identity *average cost* • *quantity* = *total cost* as the basis for predicting the funding required to deliver any targeted level of results. Cost-based formula funding need not, however, be based on unit costs—more complex funding formulas (for example, based on marginal cost) are possible.

This approach has most commonly been applied to outputs, and rather less to outcomes. For example, the forward budgetary funding requirements of school education have been estimated as a function of projected school age population multiplied by cost per student year (perhaps with various adjustments for the differential costs of different age cohorts and other cost factors). Unit costs have also been used for funding models which distribute funding within sectors. Thus in quite a few jurisdictions (for example, Denmark) the bulk of funding to schools is based on per-student funding (Serritzlew, 2003). The same approach has been widely applied to universities, with core funding set as a function of planned student admissions by course type (with differentiation between courses at various cost levels). Thus, the enrollment of a law student might attract a university \$30,000 per year, and that of a medical or science student \$90,000, with these figures being based on estimates of the cost of providing these courses. (The introduction of a system broadly along these lines in Ethiopia is discussed in Chapter 24.)

It will be obvious that the informational requirements of cost-based formula funding are considerably greater than those of program budgeting. Information is needed not only on the costs of individual services, but also on the relationship between costs and the result concerned.

Not all formula funding is, however, cost-based. For example, bonus funding based on outcomes achieved—such as the funding supplements to universities based on variables such as graduate employment rates which were mentioned above—are generally not based on cost estimates (because, among other things, the costs of achieving most of the outcomes upon which performance bonuses are based cannot be measured).

There are essentially three ways in which formula funding may be used as an instrument of performance budgeting:

- To put pressure on the agency to deliver the results upon which funding is based. If, for example, one uses unit costs to determine the budget necessary to deliver certain results, with the expectation that those results would be delivered, one is in effect setting the level of expected performance which the agency should achieve with those funds.
- As the basis for a "purchaser-provider" model (see below).
- To improve allocative efficiency by linking overall budget allocation more effectively to demand for public services. For example, knowledge of the unit costs of school education enables one to use demographic projections to estimate forward budget requirements, thus improving the quality of medium-term budgeting.

The purchaser-provider model

The most thoroughgoing approach to financial rewards and sanctions for performance—one which goes well beyond performance bonus payments—is that taken by the purchaser-provider budgeting model. Usually based upon outputs, the purchaser-provider model seeks to build upon the principle of cost-based formula funding to create incentives both for delivering targeted results and also for technical efficiency. The aim is to place agencies on a business footing, introducing strong profit/loss incentives for efficiency. There are two key elements to this approach:

- Payment of a "price" per unit for the agency's outputs, with the agency retaining any profit made by producing at a cost below the price which it is paid (but, conversely, losing money if its cost exceeds that price).
- Payment-for-results: the per-unit "price" is only paid to agencies for the outputs they actually produce. Producing less therefore results in less funding. This applies the usual practice of the market, where businesses generally do not get paid for products they do not supply. It contrasts with the usual public sector budgeting and funding practice that agencies receive funds which are essentially an expenditure allowance—there is no requirement to return funds if output and/or outcome expectations are not met.

This model was first applied on a sectoral basis, most notably as the basis for the funding of public hospitals in a number of countries under the so-called "diagnosis related group" (or "casemix") funding model. Simplifying for the sake of exposition, it meant that each hospital is paid x for, say, every hip fracture patient treated, irrespective of whether it actually cost that hospital x for the patient, or x for a very hip fracture patient treated, irrespective of whether it actually cost that hospital x for the price paid (the x) would be determined either by the average cost of treating that type of patient or, to increase the pressure for efficiency further, on something closer to the average costs of treatment of the more efficient hospitals in the system (Palmer and Reid, 2001; Newhouse, 2002). This system was originally introduced in the US for government funding of private hospitals under Medicare and Medicaid. It was, however, later adopted for the funding of *public* hospitals in a number of countries, including

Portugal (1990), Australia (from 1993), Norway (1997), Singapore (1997), and the United Kingdom (2004).

Another early application of the purchaser-provider model occurred within the US defense establishment, where it is referred to as "unit cost resourcing" (US Defense Resource Management Institute, 1998), and was applied to internal supplies and a number of defense business areas (Harr and Godfrey, 1992). From there the idea spread to internal supplies in a number of other departments such as Energy (US Department of Energy, 2003), in the form of the "Working Capital Fund" model (see Box 1.4).

Box 1.4 US Defense Working Capital Fund system

"Once Congress appropriates resources to the Department of Defense, the Office of the Secretary of Defense (OSD) and the Component [that is, organizational units with Working Capital Funds] establish Unit Cost Goals (UCGs) for the individual business areas, and issues these in individual Annual Operating Budgets (AOBs). The AOBs contain the approved unit cost goals and the projected workload for the business area. These AOBs are based on the business areas' submitted budget estimates and adjustments made by the individual Component and the OSD. As the Defense Working Capital Fund (DWCF) business area sells goods and services, it receives revenue. The difference between the revenue from sales and actual costs incurred is the Net Operating Result (NOR). Operating to break even is the goal of each DWCF business area manager—to achieve an annual NOR equal to zero. The goal for all years and for all divisions of the fund is an accumulated operating result (AOR) equal to zero."

Source: DCWF Planning, Programming and Budgeting, <www.picosearch.com/cgi-bin/ts.pl> (accessed August 1, 2005).

In the mid and late 1990s respectively, New Zealand and Australia introduced an "accrual output budgeting" system which was—at least as originally conceived by its key proponents—intended to place the whole government budget on a purchaserprovider footing. In these models, government recast itself as a purchaser of services from each of its ministries on behalf of the public, and distinguished between this purchaser role and its "ownership" role vis-à-vis these bodies. The principal budget appropriation received by agencies was a "payment for outputs" which would be treated as revenue earned in the business-style accrual accounts of the recipient agency. The original intention was to apply the principle of payment-for-results (that is, that money is only paid for outputs actually produced) in such a manner that "recognition of Departmental output appropriations" would "reflect agencies [sic] delivery of their outputs" (DOFA, 1999, p. 43). This meant that if an agency did not fully deliver all the outputs expected of it, it would record an operating loss. It was also planned that the prices paid for outputs would be based upon an estimate of the efficient cost of producing the output, which was naturally expected to be as a rule below actual prevailing average costs. As the Australian finance ministry put it, "departmental output appropriations will progressively be based on market (or

benchmark) prices, rather than...input costs" (DOFA, 1999, p. 27). The implication of this was that inefficiency would also be reflected in operating losses.

Purchaser-provider models require all the information needed by cost-based formula funding systems in general. Insofar as these models seek, however, to apply the principle of payment on the basis of efficient cost, they also require the use of *comparative cost information* to determine what expected efficiency gains to factor into the "prices" paid for agency outputs. Concretely, the aim is to use information on the costs at which others—that is, organizations delivering similar services—produce results, through cost benchmarking or market price comparisons.

Purchaser-provider models are discussed in greater detail in Chapter 16.

Conclusions

Performance budgeting seeks to link the funding provided to government agencies to the results they deliver, in order to increase the efficiency and effectiveness of public expenditure. For this purpose, it makes systematic use of performance information in the budgeting/funding process. It is important to distinguish performance budgeting from "managing-for-results," which is about the use of performance information in public management more generally. In many of its contemporary incarnations, performance budgeting is part of a broader "managing-for-results" set of reforms. It is, however, a distinct component of those reforms, focused on the budgeting/funding process.

There is no single form of performance budgeting. Different forms of performance budgeting seek to link results and funding in different ways, and with somewhat differing objectives. Some place primary emphasis on improved expenditure prioritization, whereas others place stronger emphasis upon improved program/service effectiveness or upon (technical) efficiency. Certain models seek to link funding to *future* expected results, whereas others seek instead (or in addition) to build a link between *past* results and future funding. Some incorporate the idea of funding "incentives" for performance, whereas others do not. Outputs are the main focus of attention in some, whereas in others it is outcomes. While measures of results achieved are important in all cases, the performance information needs of the different performance budgeting models vary—on the cost side, for example, some require detailed information on the unit costs of specific services, whereas others require "only" program costing. Any discussion of performance budgeting—and, in particular, any assessment of its efficacy—must pay attention to the diversity of forms of performance budgeting, and avoid inappropriate generalization.

This chapter has identified four fundamental mechanisms used by performance budgeting: program budgeting, funding-linked performance targets, agency-level budgetary performance incentives, and formula funding. It has also distinguished between formula-funding mechanisms which are cost-based, and those which are not. Both the case studies and theoretical analysis in this book are intended to shed light on the modus operandi and efficacy of each of these performance budgeting mechanisms.

Notes

- 1. The author would like to thank Philip Joyce and Eivind Tandberg for their valuable comments and suggestions on a draft of this chapter.
- 2. Thus Melkers and Willoughby (2001, p. 54) define performance budgeting as "requiring strategic planning regarding agency mission, goals and objectives, and a process that requests quantifiable data that provides meaningful information about program outcomes." This effectively equates performance budgeting with the particular approach to managing-for-results reform which has dominated the United States in recent years, particularly the Government Performance and Results Act (GPRA) (see, for example, Radin, 1998).
- 3. Including the "performance budgeting" system advocated by the 1949 Hoover Commission (see Hoover, 1949). On the similarities and contrast, see Schick (1966).
- 4. Or as the UN Manual for Programme and Performance Budgeting (1965, p. 91) put it, "programmes identify end products of the departments and agencies and enable evaluation of the achievement of functional objectives."
- 5. Fisher (one of the RAND Corporation staff who developed PPBS) defined programs as "a set of categories oriented primarily toward 'end-product' of 'end-objective' activities that are meaningful from a long-range planning point of view" (Fisher, 1967, p. 61).
- 6. Thus, for example, Georgia in the United States has a system of so-called "Prioritized Program Budgeting," Bulgaria is in the process of introducing a program budgeting system, and the British Department of Health has an internal program budgeting system for prioritizing health expenditures.
- 7. This should not be taken to imply that public sector ZBB exponents viewed ZBB only as an expenditure prioritization tool. To the contrary, it was viewed as also serving a range of other purposes, including the identification of efficiency savings.
- 8. One can measure the relative performance of, say, different universities, or different schools, because they are delivering the same type of service. One cannot, by contrast, measure the performance of a health department relative to that of a defense department. Consequently, no financial performance bonus system at a government-wide level could ever operate in a formularized manner based entirely upon "objective" performance measures but must, instead, depend upon more subjective approach to performance assessments.
- 9. Formula funding which does not involve any degree of pressure to deliver the results upon which funding is based cannot be considered performance budgeting. For example, formulas based upon the cost of providing a range of services (outputs) at certain minimum or standard levels are used in a number of countries for determining the sharing of central government grants between sub-national governments. However, if the sub-national governments retain total freedom to spend such grants in any way, and for any purpose they wish, this does not constitute performance budgeting. More generally, formulas are often used as a means of achieving a transparent form of equity in the sharing of funding, rather than for the purpose of promoting improved performance. Formulabased performance budgeting is, therefore, only one form of the more general category of formula funding.
- 10. As the US Federal Accounting Standards Advisory Board puts it (using the term "activities" somewhat imprecisely), they use "information on the costs of program activities...as a basis to estimate future costs in preparing and reviewing budgets" (FASAB, 1995).

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