

# International Studies Program

Working Paper 02-15  
May 2002

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# ON THE USE OF BUDGETARY NORMS AS A TOOL FOR FISCAL MANAGEMENT

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## Abstract

The use of expenditure needs, sometimes referred to as “expenditure norms”, “budgetary norms”, or “minimum standards”, is important in the formulation of budgets and, especially, in the establishment of transfer and grant formulae. Minimum standards are also used by central governments to control expenditure policies of subnational governments, often with the goal of protecting and enhancing national priorities. However, despite the continued wide use of expenditure norms, there are many aspects there are not fully understood. Perhaps the most basic issue is the actual construction of the norms. In this paper we examine what some countries have been doing to bring a more accurate assessment of their expenditure needs. We argue that the broad trend across most all countries is for budget controls and procedures to become less complex, and this tendency is observed throughout the assessment of expenditure needs process, including the design of grant formulae. Indeed, perhaps the major trend is to use simpler methods of expenditure needs where rules are clear for every component of the process and for all participants in the process. The consensus also appears to be that traditional budget processes should place a greater emphasis on the outcomes achieved by government spending units and the evaluation of managers and personnel according to these outcomes rather than controlling *ex ante* expenditure control, and that expenditure needs assessment can help in this process.

## Introduction

During the last ten years many transformations in public budgeting have taken place across governments in all parts of the world. One significant area for these changes has been in the assessment of expenditure needs across all governmental agencies. The use of expenditure needs, sometimes referred to as “expenditure norms”, “budgetary norms”, or “minimum standards”, is important in the formulation of budgets and, especially, in the establishment of transfer and grant

formulae. Minimum standards are also of interest because central government agencies often use them in an attempt to control expenditure policies of subnational governments. Broadly, these budgeting changes are directed at devising more efficient and effective ways to deliver public services to people.

The terms “budgetary norms,” “minimum standards”, and so on are not always clearly and consistently used in the literature. “Budgetary norms” and “expenditure norms” are typically used in the context of budget formulation and in the computation of expenditure needs, such as is the case in formulas for equalization grants. These budgetary norms may be used for computational purposes only (i.e., to arrive at a budget or to calculate the amount of a transfer). They can also be used for budget implementation purposes whereby it is the responsibility of the budget units to actually execute the budget norm; in these cases the budget norms are also known as minimum expenditure standards. On the other hand, the term “minimum expenditure standards” or simply “minimum standards” may not be associated at all with the amounts used to formulate budgets or compute transfers, but simply be used in the context of mandates that the central government makes in order to control local budgets or to make sure that certain national expenditure priorities are preserved at the local level.

The use of expenditure norms has been a source of troublesome budgetary practices. For example, in what might be termed a “needs-based” approach to budgeting, budgets are viewed from a perspective of needs rather than from a perspective of feasible service provision given current revenue generation. Here the components of some standard of living are first determined; minimally acceptable levels of these components are determined (thereby determining a minimally acceptable standard of living) and are used to determine the goods and services that must be provided by government; the minimum necessary government budget needed to provide these goods and services is then calculated; and taxes are set to raise the necessary revenues. This approach was quite common in the formerly socialist countries, and stemmed from the normative and egalitarian tenets of these countries’ political philosophy and economic assumptions.<sup>1</sup>

Indeed, a significant feature of budgeting under planned socialism was the use of thousands of these detailed expenditure norms, often defined in physical terms based on infrastructure levels controlled by lower-level governments (e.g., funding based on the number of hospital beds or school buildings). The centralized control over the budget process, combined with the extensive use of spending norms, created extraordinary rigidities in the resource allocation process. This passive, norm-based approach to budget formulation inherited from the Soviet budget process has been a significant source of difficulties in transitional economies. Budgeting from a perspective of needs as defined by expenditure norms, without accounting for resource availability, has been an important cause for the development of unrealistic budgets and the absence of aggregate fiscal discipline. In addition, norm-based budgeting, especially when physical norms were used, failed to provide budget units with incentives to prioritize expenditures or achieve operational efficiency,

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<sup>1</sup> In contrast, a “revenue-based” approach to budgeting involves predicting future revenue and funding only those services that are feasible given the revenue forecast. In this approach, normative discussions typically invoke “fair” levels of taxation.

and often induced inefficiency by rewarding budget units that kept idle or unneeded physical capacity.<sup>2</sup>

The reality is that most countries use some notion of budgetary norms or standards either based on the cost of inputs, the quantity of outputs, or some measure of desired outcomes, in order to formulate their budgets and fund the different components (education, health, welfare, and so on.).

Expenditure norms also find an important use in the design of intergovernmental transfers. In many countries central government transfers to lower levels of government are often intended to equalize the abilities of lower levels of governments in their provision of public goods and services. Governments typically have very different expenditure needs. A government may have concentrations of specific demographic groups who require large amounts of government services such as health care for the elderly or education for the young; the government may also be located in an area that has especially high costs of service provision due to the age of its infrastructure, its climate, or its population density. “Equalization transfers” are intended to make roughly equal the expenditure capacities of the governments.<sup>3</sup> If a central government transfer program is to address the horizontal disparities that such factors generate across subnational governments, the central government must first quantify these different expenditure needs by the calculation of expenditure norms for the relevant categories of expenditures. The estimated expenditure norms can then be used in determining the amounts of grants allocated to each subnational government, as well as in planning and implementing budget policy.

The imposition of minimum standards by central governments with the purpose of controlling subnational expenditures may be justified when either the constitution or other laws (e.g., on budget process or fiscal decentralization) make a clear point in assigning compulsory or obligatory expenditure responsibilities to local governments, as opposed to those that are optional or voluntary. However, not all central governments use minimum expenditure standards. Some decentralized countries may shy away from using minimum standards because they do not want to reduce local autonomy.<sup>4</sup> Legitimate central government interest in expenditure outcomes at the local level (e.g., national priorities on education), can still be exercised through the implementation of conditional grants. The imposition of service standards is more common among countries with a unitary form of government and decentralized system of finance. Typically, there is less political room for the center to legislate minimum standards in federations, although unfunded and funded mandates are also frequently found in federations.

Despite the continued wide use of expenditure norms and minimum standards, there are many aspects that are not fully understood. Perhaps the most basic issue is the actual construction of the norms. In this paper we examine what some countries have been doing to bring a more

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<sup>2</sup> See, for example, Martinez-Vazquez(1997).

<sup>3</sup> Note that governments typically differ in their ability to finance expenditures, as well as in their expenditure needs. Differing fiscal capacities can also be incorporated in equalization transfers.

<sup>4</sup> This is, for example, the case in Denmark. See the discussion in Goga (2002)

accurate assessment of their expenditure needs. We address several questions:

- What procedures are followed in assessing a governmental unit's level of expenditures?
- What procedures are generally followed in estimating the expenditure norms?
- What are the current international practices in the determination of the norms and minimum standards?
- What are the benefits and costs of these practices?
- What are the policy alternatives for the determination of the norms?

We examine each of these issues in turn.

As we will see, the broad trend across most all countries is for budget controls and procedures to be less complex, and this tendency is observed throughout the assessment of expenditure needs process, including the design of grant formulae. Indeed, perhaps the major trend is to use simpler methods of expenditure needs where rules are clear for every component of the process and for all participants in the process. After all, data availability is always an issue in the development of grant and transfer formulae and procedures to establish expenditure needs across departments and agencies. One of the principle aims is to have consistency and comprehensive information, so that expenditures can be efficiently assigned and evaluated. This is especially true in the early stages of reforms and transformations of budgetary practices. Sophistication comes with practice and the development of better practices over time. Moreover, the need for greater transparency throughout the process of expenditure needs assessment across all government dependencies has become widely recognized. The consensus also appears to be that traditional budget processes should place a greater emphasis on evaluating the performance of government spending units and their managers and personnel according to these outcomes rather than controlling *ex ante* expenditure control. Many have concluded that traditional budget processes (e.g., detailed itemization of different items of expenditure and highly controlled expenditures without monitoring performance) have contributed to inefficient service delivery without averting corruption. Traditional budget processes are highly fragmented, excessively complicated, and extremely opaque, and reforms that are currently underway in many countries are intended to remedy these problems.

In terms of minimum standards imposed on local governments, a common problem has been that the concept of a "minimum standard" is not well defined. Typically, several approaches are used at the same time in a country, ranging from very detailed technical standards to general guidelines for outcomes. Minimum standards defined in terms of physical or financial inputs or the production of certain outputs have been and continue to be the most common specification of minimum standards. The use of minimum standards, of course, raises the question of how - and by whom - the implementation of those standards is going to be financed. Their use also requires that there be clear rules for monitoring the compliance with the rules and for imposing penalties for failure to comply. These questions have been answered differently in different countries.

But here again, in recent years the focus has been slowly shifting toward simplification and putting more emphasis on desirable outcomes rather than just on inputs.

A step often required prior to defining expenditure norms and minimum standards is to assess expenditures of public agencies relative to their outputs. In the next section we look at several techniques employed to this end.

## **Assessing the Current Level of Expenditures of a Governmental Unit**

In this section we describe a variety of techniques for assessing the expenditure needs of governmental units. The objective here is to give a general accounting approach to establishing the “appropriate” level of expenditures relative to the unit’s output. These techniques and procedures are mainly oriented to controlling operating costs.

### **Full-Cost Identification**

A true program budget reports all of the costs associated with a given program. A basic premise of such a system is that full cost reports will help policymakers in their deliberations regarding needs, priorities, and options. Systems that presume to report full costs but fail to do so are deceptive and may contribute to ill-advised decisions. Capital items and internal services deserve special attention in calculating program expenses. For example, the costs of acquiring and maintaining buildings and vehicles often are not reflected in the budget of the program that benefits from their use.

One of the biggest problems facing governmental agencies is the growing cost of delivering services and the inability to improve performance (i.e., increases in output per worker or quality improvements). This situation obviously raises questions about measuring actual expenditure needs of government units; this issue is discussed in the following section.

### **Activity Based Costing**

“Activity based costing” (ABC) is a relatively simple way to divide existing costs into different departments, areas, and programs within an organization. This approach is widely used in the private sector, and countries like the United Kingdom have employed variations on it in order to assess expenditures across different government areas. ABC separates costs within an organization (e.g., personnel, utilities, office materials) and assigns them to specific programs within the jurisdiction of the agency, according to actual expenditures on each program. Costs of physical plant, depreciation, rent, and other explicit and implicit costs are assigned.

This system allows central budget offices to compare programs between government agencies as an *ex post* revision or control, which brings more accountability to the initial process of budgeting. At

the same time, useful ratios can be calculated in order to establish degrees of efficiency by program, making it easier for policy-makers to compare the relative performance of different programs; even over time, it becomes a simple matter to see how a specific program is performing in terms of its expenditures, size, and output. In general, this approach resembles a performance-oriented approach to evaluate and assess expenditure needs.

### **Analysis By Structure**

Analysis by structure (ABS) shares some characteristics with ABC, but it takes a slightly different perspective on the process. The aim of this approach is to look at the different components of an organization, examining how their boundaries are defined, how these components interact to achieve common objectives, and how expenditures are related across different areas that contribute to the same objective. In contrast to ABC, this approach does not try to measure detailed costs of a specific program, but rather it tries to link more subjectively determined services with the activity of other departments in order to help different programs achieve their joint goals.

According to the ABS methodology, there are four essential issues that need to be addressed in order to improve the efficiency of operations and, in the process, to assess actual expenditure needs. First, it is necessary to create a map that links program's policy, objectives, departments, executives, and personnel to the specific objectives of the agency. Second, it is helpful to know how often a zero-based review of expenditures is made by the agency. One primary reason for revisions is to evaluate expenditures that are constantly growing due to incremental budgets without a thorough review of how these expenditures are contributing to current objectives. Hence, a periodic zero-based review is linked to policy activity in order to assess expenditure needs of governmental agencies. Third, it is important to establish and publish measurable objectives of the programs within an agency. As discussed in greater detail below, this issue is widely seen in budgeting policy in the United Kingdom, the United States, and New Zealand, among other countries. Fourth, this technique requires that support functions in different units have a defined link and cost related to each program or activity with a clear output.

As with ABC, this ABS approach is clearly related to performance-oriented budgeting. The broad goal of both approaches is to allocate personnel to activities that produce the desired output.

### **Cost Driver Analysis**

Another general approach is cost driver analysis (CDA). CDA identifies which branches of an organization or program are generating which costs. This identification enables further analysis and discussion over key areas or specific factors. "Cost drivers" are features of a process or activity that are dominant in determining cost (Burnell-Nugent, 1996). For many government activities, it is natural to think of output volume as the main cost driver; for example, the cost of prisons may depend on the number of prisoners. Such an approach is limiting because it accepts fixed costs as given and it implicitly assumes that modifying variable costs is the only way to achieve cost savings. Instead, CDA tries to take a more expansive view in establishing the factors that are the main determinants of costs. In the case of prisons, for example, cost driver analysis would require examining the extent to which the age of infrastructure, the use of new technology, and current

working practices (e.g., the “cost drivers”) contribute to cost. Systematic identification of cost drivers offers an important tool to assess expenditure needs, and it also offers the opportunity to compare and ultimately to reduce expenditures in areas that operate inefficiently.

It is useful to classify cost drivers into three categories: structural cost drivers, executional cost drivers, and quality cost drivers. “Structural cost drivers” tend to be externally determined or demand driven in terms of scale and complexity. For example, the scale of activity for a driver’s license office would be the expected number of driver’s licenses issued per year; complicating factors here would be the number of different types of licenses, changes of address, and name changes. “Executional cost drivers” are internally determined. Examples of executional cost drivers include capacity utilization (e.g., whether the facilities satisfy forecasted demand), design of the product or service (e.g., whether the license really needs to have a plastic cover), and the application of technology (e.g., whether the latest technology and procedures to print licenses is cost effective). “Quality cost drivers” involve prevention activities (e.g., training, costs of monitoring quality and audits).

## **The General Process For Estimating Budgetary Norms and Minimum Standards**

Nevertheless, it is still necessary to have specific procedures for estimating expenditure norms. Let us start with budget norms for budgeting purposes and then talk separately about minimum expenditure standards used to direct expenditures at the subnational level. There are many ways of measuring norms.

As emphasized by Moore and Rhodes (1981), an appropriate methodology for assessing the expenditure needs of subnational governments should have the following characteristics:

- Legal - consistent with the constitution and administrative arrangements governing the relationship between the central and subnational governments in the country.
- Rational - designed within a conceptual framework that meets clearly defined economic and social objectives set of the country.
- Feasible - operational from the point of view of data requirements and the analyses required to make the system work well in practice.
- Simple - capable to being understood by all parties in the system.

A common approach is to base norms on the actual experience of the governments, by relating actual government expenditures in various service categories to those factors deemed likely to determine the required or minimum level of spending in the categories.

A stylized view of this process is as follows.

**First**, minimum required expenditures in different service categories are determined on a per resident basis. If these amounts are based upon actual expenditures of the relevant subnational governments over the most recent year or years, then an implicit assumption is that actual expenditures reflect the appropriate standard. The service categories include such areas as education, transportation, health care, social services, public works, and crime prevention. The actual expenditures in these categories are related to various indicators thought to determine the minimum expenditure requirements. For example, education expenditures may be determined by the number of school-age children or the number of educational institutions in the jurisdiction; health care expenditures may be a function of the number of hospital beds, the number of older or younger residents, or the number of hospitals in the jurisdiction; transportation expenditures can be related to the total length of roads in the jurisdiction; police, fire, and social welfare to the total population or to specific subgroups. The resulting amount in each service category becomes the basic level of per resident expenditure norm for that category.

**Second**, these per capita amounts are adjusted upward or downward on the basis of specific population, geographic, or infrastructure characteristics of the government that are thought to affect the cost and/or the quality of service provision. It is well known that the unit cost of services often varies from region to region for a number of reasons, including the age profile and family structure of the resident population in the case of social services and climate and topography in the case of highway construction and maintenance. The reasons for local expenditure deviations per unit of service should also be determined by disentangling the impact of variations in participation rates from other sources of variation in unit costs. Variations in expenditure arising from participation rates should be broken down into two categories: differences in unit cost for identical service levels and differences in unit cost arising from variations in the quality of service.

An especially important factor that must be considered in the standard expenditure approach regards the impact of declining and growing population on expenditure needs assessment. Since units of services often are based on the number of a specific target population (e.g., the number of school age children), conventional expenditure needs formulae should be adjusted for growing populations, in order to direct more resources to local governments with growing numbers of school age children. On the other hand, local governments sometimes argue that declining populations may increase their relative per capita expenditure needs, and, as a result, some countries have introduced factors into needs-based formulae to account for rising relative per capita costs due to declining populations. In any event, the conventional expenditure approach is sufficiently flexible to adjust for a wide variety of circumstances.

Some frequently used adjustment factors for a jurisdiction's specific expenditure categories include:

- *Education*: teachers' wages, rental cost, percentage of students with physical disabilities, percentage of children from low-income families, age profile and family structure of the population
- *Health*: health care cost, infant mortality, life expectancy, population density
- *Transportation*: wages, road grade, annual precipitation, topography, population density

- *Police and Fire*: wages, crime rate, number of fires, population density
- *Social Welfare*: minimum wage, percentage of low-income individuals, percentage of older individuals, percentage of disabled individuals, unemployment rate.

A variable is typically expressed as a ratio equal to the level of the variable in the jurisdiction divided by the national average. The adjustment factors are chosen to reflect these elements. These variables must be assigned weights to determine the relative importance in the adjustment calculation.

**Third**, the estimated per resident expenditure norm in each category is multiplied by the population of the local jurisdiction and then totaled across all expenditure categories, to determine the total expenditure norm for the subnational government. Once this information is assembled, devising a needs-based formula can be developed.

To illustrate more precisely, denote the per capita expenditure need in service category  $i$  as  $N_i$  and the population of the jurisdiction as  $P$ . The total expenditure norm for category  $i$  equals  $PN_i$ . If the cost adjustment factor for category  $i$  is denoted  $\phi_i$ , then the expenditure norm for the category, adjusted for cost differences, is  $(\phi_i PN_i)$ . The total expenditure norm for the jurisdiction is simply the sum over all  $i$  categories, or  $\sum_i (\phi_i PN_i)$ . In addition, assume that the expenditure norm for category  $i$  is determined by as many as  $j$  factors, or  $X_{ij}$ , each of which has weight  $w_{ij}$ . Then another way of expressing the per capita norm  $N_i$  is  $N_i = \sum_j w_{ij} X_{ij}$ , and the total expenditure norm for the jurisdiction can be rewritten as  $\sum_i (\phi_i PN_i) = \sum_i (\phi_i P (\sum_j w_{ij} X_{ij}))$ .

The resulting expenditure norm can be used for general budget planning purposes or for specific budget control purposes. In the former case, the norms provide general information on the level of finance needed by subnational governments, and thereby serve to give general guidance for planning purposes; however, the level of spending suggested by the norms may or may not be provided or available to the governments, depending upon the budgetary constraints faced by the central government.

In fact, very few countries use norms for budget formulation. However, norms are often used in actual budget implementation. In this case, the norms are used to determine the actual levels of funding for the subnational governments, generally through their incorporation in grant formulae. In combination with limitations on the use of funding, the norms then provide for a control mechanism during budget execution. This use of expenditure norms is quite common internationally.

There are several choices that must be considered in this exercise. One choice is the range of expenditure functions over which to measure the needs. All public services should in principle be included in order to avoid bias against those subnational governments where an excluded service might be especially important. However, data limitations often make it impossible to include all service areas. A related choice is whether to include both capital and current expenditures in the formulae. Given the wide variation often found in capital projects, their lumpiness, and the

difficulty in finding appropriate indicators, capital expenditures are usually excluded from the equalization formulae.

The most difficult and contentious choice relates to the factors used to determine the per capita expenditure norms  $N_i$  in each service category, the determinants of these factors  $X_{ij}$ , the weights  $w_j$  attached to these factors, and the cost adjustment factors  $\phi_i$ . These choices are necessarily somewhat imprecise and subjective. Still, it is necessary that the formula should compensate for the national average expenditure per unit of service, and also that it compensate for variations in unit costs outside the control of individual local authorities (e.g., a high proportion of elderly population in health care or mountainous terrain in road construction.)

The expenditure norms that can be used for budget formulation purposes or to estimate needs in grant formulae can also be used to set minimum expenditure standards to control budget execution by subnational governments. The setting of minimum standards can cover a wider range of approaches than those used in the construction of expenditure norms. Generally speaking, there are two kinds of minimum standards used in practice<sup>5</sup>: “rules based” or “technical” standards, which include different levels of detail on physical inputs, outputs, or financial amounts to be used in specifying standard expenditure norms; and “performance based” standards, which are typically measured as outcomes. The latter are more common in decentralized countries with more autonomy at the local level and countries that have been in the vanguard of budget process reform at the central level such as New Zealand and Australia.<sup>6</sup>

We next consider international practices in the process of defining and using expenditure norms and minimum standards.

## **International Practices in Specifying Norms and Standards**

There are several ways by which expenditure norms can be specified. One way is to rely upon expert or professional opinion to determine necessary standards of services. The risk associated with this approach is that the outcome may be expenditure norms that are unrealistic or unaffordable from a budget viewpoint. In this case, expenditure norms can actually be counterproductive. Government officials and citizens could be equally frustrated, and the actual budget would need to be reduced to make it affordable. To a large extent the problems created by the use of norms in the budget system of the former Soviet Union were associated with the methodology employed. The Soviet system used a bottom up approach with exclusive reliance of experts from line ministries to determine expenditure norms.

Another way is to estimate the unit cost of providing a minimum or standard amount of specific government services in a representative jurisdiction. An important advantage with this approach is that, by referring to actual data, it ensures that the expenditure norms are realistic or affordable from a budget viewpoint. The unit cost of providing the minimum standard can be estimated by either

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<sup>5</sup> See Goga (2002).

<sup>6</sup> Public safety concerns in some areas, however, may require the continued use of technical input-oriented standards.

regression analysis or more direct approaches. Regardless, the basic assumption is that the norm is determined by various jurisdictional factors like the numbers of specific population age groups or infrastructure facilities. Cost-adjusted weights are then assigned to these factors to reflect their relative importance and their relative cost; if a regression approach is used, the regression coefficients can be used as weights for the factors. Numerous countries have followed this general approach, although the specific formulations vary considerably.

Data availability and the institutional setup of subnational governments (e.g., the existence of local autonomy or budgetary discretion) limit the number of countries that use a regression approach.<sup>7</sup> Often times the individual disaggregated data on each jurisdiction may not be available. Even if available, it may not be desirable to use because the pattern of past expenditures by local governments may reflect institutions that are no longer valid or desired. For example, the patterns of local expenditures in Indonesia before 1999 were often thought to reflect the privileged position of some regions protected by a long standing dictatorship. It would not make sense to replicate such past expenditure patterns in the construction of new norms or standards. Similarly, Russia, Ukraine, and most other transitional countries had a similar difficulty early on: past expenditures were a reflection of many things from the past, but not a reflection of local governments free to choose their expenditure patterns.

In these cases, the budget authorities had two choices. The first was not to use budgetary norms at all. In this case, expenditure needs for equalization grants and other purposes can be approximated by simplified indexes, such as a weighted average of the population and land area shares of each local government. Numerous countries have used this approach. The second option is to design budget norms starting from local budget aggregates to ensure that these norms are affordable from a current resource availability perspective. For example, in the new budget system introduced in Ukraine in 2001, budget norms reflect the division of the overall subnational government budget envelope into different expenditure categories. The per capita or per client expenditure norms derived using this methodology can be, but do not need to be, similar to expenditure per capita in past years.

When a representative jurisdiction approach (with or without regression analysis) is used to develop norms, each expenditure norm for category  $i$  can be viewed as determined by various factors  $X_{ij}$  with weights  $w_{ij}$  and cost adjustment factors  $\phi_i$ , so that the per capita norm  $N_i$  equals  $(\phi_i (\sum_j w_{ij} X_{ij}))$ . As noted above, the difficult and contentious decisions here relate to the choices of the factors  $X_{ij}$ , their weights  $w_{ij}$ , and their cost adjustment factors  $\phi_i$ . International practices differ considerably in these choices.

When the top down approach is used to develop affordable norms, the basic figures for the norms are not necessarily estimated from actual budget data. The data may be given by the budget authorities and derived from budget aggregates. For example, to arrive at the basic norm per student in elementary education, the Ministry of Finance will decide at budget time that education should represent a particular share of total aggregate subnational government expenditures, and that primary education should represent a particular share of total education expenditures. The resulting

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<sup>7</sup> For example Australia, Canada, and many states of the United States use regression analysis.

funds divided by the number of elementary students provides the basic expenditure norm per student in elementary education. The basic norm is adjusted up and down for cost differences, special needs, conditions, and so on.

The most detailed information available on the construction of expenditure norms is typically in reference to the computation of expenditure needs for equalization grants. Consequently, most of the review of the international experience below focuses on the methodology used in the estimation of expenditure needs for equalization purposes. The review of the international experience clearly shows that there is no single best approach to construct expenditure norms, if or once government officials have decided that they need to use expenditure norms.<sup>8</sup>

### **Australia<sup>9</sup>**

The Australian system has been developed over a considerable period of time, and is part of a comprehensive system for determining the allocation of intergovernmental transfers. The grant to a specific jurisdiction equals the sum of an equal per capita grant, a grant that measures special revenue needs (e.g., above- or below-average fiscal capacity), and a grant that reflects special expenditure needs, or what has been termed here expenditure norms.

The Australian approach is known as the Factor Assessment Method (FAM). The FAM measures expenditure need as per capita expenditure required by a region to provide a standard level of services and the per capita difference in the region's demand for services and the unit cost of providing services. In terms of revenue capacity, the FAM uses the national average per capita revenue raised at standard rates of tax and the extent to which the region's revenue base differs in per capita terms from the standard revenue base.

A key factor in the application of the Australian system is the collection of detailed expenditure data by territory (district or province) and by sector. This is essential to estimate the adjustment coefficients on unit costs. Once the data become available, various expenditure needs measures can be tested in order to select the most significant factors that influence unit costs. At the initial stage, the model can use a small number of indicators and expenditure categories for simplicity and transparency. Over time, additional variables can be introduced, if justified by evidence that these variables have a statistically significant influence on unit costs (Ahmad, Hoffman, Ma, Rye, Searle, and Stevenson, 1999).

At present, the expenditure norms in Australia are based upon a detailed breakdown of local expenditures into eleven service categories. These categories, and the factors used to determine the norms in these categories, are:

- *Welfare*: relevant population, administration scale, age/sex, dispersion, input cost, demographic composition

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<sup>8</sup> The international experience with minimum expenditure standards parallels to some extent that with expenditure norms. See Goga (2002) for a recent review of international experience with minimum standards.

<sup>9</sup> See Rye and Searle (1997) and Ma (1998) for a detailed discussion of the Australian system.

- *Culture and Recreation*: administration scale, cross-border movement, dispersion, input cost, land rights, national capital, sacred sites, demographic composition, transient population, urbanization, physical environment
- *Community Development*: administration scale, input cost, land rights, national capital, demographic composition, stage of development, urbanization
- *General Public Services*: administration scale, dispersion, expenditure relatives, input cost, land rights
- *Services to Industry*: administration scale, dispersion, expenditure relatives, input cost, land rights, physical environment
- *Education*: relevant population, administration scale, age/sex, cross-border movement, dispersion, economic environment, grade cost, input cost, physical environment, service delivery scale, demographic composition, urbanization, vandalism and security
- *Health*: administration scale, cross-border movement, dispersion, inpatient services, input cost, non-inpatient services, age/sex, demographic composition
- *Law, Order and Public Safety*: relevant population, administration scale, age/sex, offenders, cross-border movement, dispersion, input cost, land rights, national capital, physical environment, service delivery scale, demographic composition, transient population, urbanization, vandalism and security
- *Transport*: administration scale, dispersion, input cost, land rights, road length, road usage, demographic composition
- *Economic Affairs and Other Purposes*: administration scale, dispersion, expenditure relatives, input cost, physical environment, demographic composition
- *Trading Enterprises*: relevant population, administrative scale, expenditure relatives, input cost, interest, land rights, physical environment, service delivery scale, demographic composition, urbanization, vandalism and security.

These factors are termed “disability factors”, and are expressed as the ratio of a specific jurisdiction to the national average. The standard norm for each category starts with an equal per capita amount, equal to the average expenditure over the previous years. This standard norm in each category is then adjusted to reflect the disability factors indicated above.

The Australian system has been able to achieve a significant amount of equalization across subnational governments. It is also clear that this system is extremely complicated and has extensive data requirements. Obviously, judgment has an intensive influence on all assessments.

Although the Australian system is one of the more sophisticated and developed in the world, it still relies on judgment in all its aspects. Indeed, a general lesson from the Australian experience is that it is necessary to use whatever data are available to make judgments as impartial as possible.

In terms of standards, Australia has introduced a comprehensive system of performance standards with the overall goal of assisting subnational governments with the means of assessing their relative efficiency. Interestingly, setting performance standards involves officials but also the clients of the services.

## **United Kingdom**

In the mid 1970s, expenditure needs estimation in England and Wales underwent a significant methodological change. The theory behind the methodology is to enable the central government to “compensate local authorities for differences in their spending needs - that is, in the amounts they would need to spend in order to provide similar overall levels of local services” (Jackman, 1981). A regression approach was instituted that identified the need factors associated with public goods provision, with the regression coefficients used as the weights.

This methodology has been developed over time, as different factors have been dropped and others added. Table 1 reproduces the experience for the first four years use of this methodology, as applied to education expenditures. The table shows that there were many changes in the methodology, with a movement toward population-based characteristics and finally a concentration of characteristics affecting education expenditures, especially the distribution of school-aged children). Alterations in the formula over the years have caused some amount of confusion regarding the factors and therefore the grant distribution. As the estimation has changed, the weights used to estimate the expenditure norms also change, which in turn alters the education grant to local jurisdictions.

At present, this basic approach is applied to seven expenditure categories. These categories and the factors included are:

- *Education*: number of pupils, number of pupils with special needs, pupils from low income families, labor cost, rent, population density
- *Highway Maintenance*: length of existing roads, labor cost, traffic density, population, incidence of snow
- *Social Services*: number of elderly people over 65, over 75, and over 85; number of children in single parent families, in low income families, living in rented accommodations, in homeless families, in non-white ethnic minority families; population between 18 and 64, number of mentally ill people, number of physically handicapped people, population living in overcrowded accommodations, population living in rented accommodations, families sharing properties with others, population of non-white ethnic minorities

- *Fire*: population, population density, number of fires, high-risk properties, length of coastal line
- *Police*: population, population density, number of calls to police, number of crimes, traffic volume, population living in overcrowded accommodations, families sharing properties with others, length of existing roads, security expenditures
- *Other Services*: population, population density, labor cost, rent
- *Capital Expenditure*: principal and interest repayment on debt.

Regression analysis is the main method used to determine the weights; however, for some categories, the weights are assigned on the basis of expert opinion, with consultation with local authorities. This approach applies only to current expenditures, not for capital projects.

The United Kingdom system is perhaps the most comprehensive one now in use. Nearly all (current) services are considered, with differences in a wide range of jurisdictional characteristics, including costs, factored into the analysis. The system is able to achieve nearly complete equalization because it ensures that the same per unit amount will be spent in all jurisdictions that face the same conditions. This equalization comes at the expense of extreme complexity; the data requirements are extensive. The system is also not fully understood by local officials due to its sophistication and lack of transparency.

The United Kingdom also has been an innovator in the introduction of Citizens' Charters, with clear standards of services for clients and users and with quantitative targets for budget organizations. The National Audit Commission carries value-for-money evaluation and expenditure programs and publishes a series of indicators of local governments' performance. Although the emphasis is clearly on increasing local government accountability to its residents, the United Kingdom, as a unitary country, routinely asks local governments to implement technical standards of service delivery established by the central authorities. The local governments, however, have flexibility in determining how the technical standards are to be met.

## **Bulgaria**<sup>10</sup>

Bulgaria is attempting to transform its budgetary practices by increasing the transparency of government expenditures in line with international trends, particularly in the European Union. So far, the transformations are still rough, and changes in specific issues like the assessment of expenditure needs are still in the early stages of development are following.

Local governments have only recently been given much autonomy in Bulgaria, and these governments are still heavily dependent upon the central government for revenues, even though local governments undertake a relatively large share of total government spending. A major source

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<sup>10</sup> See Organization for Economic Cooperation and Development (1994) for further discussion of needs assessment in Bulgaria.

of these revenues comes from a “normative grant”, based on a needs or norms assessment using regression analysis, as with the United Kingdom. At present, explanatory variables in this analysis include the municipality’s population, its per capita income, the number of towns and villages in the municipality, the number of patients in regional hospitals, the number of non-working single mothers, the number of pupils in secondary schools, and the number of funeral ceremonies. The regression results generate the weights that are attached to these variables.

This is a very complicated system of assessing expenditure needs, and it creates several problems: information is not always available, budget allocations are not timely, the process is almost impossible to follow, the process is not transparent, and administration is very costly. For example, Bulgaria has more than 20 different categories to assess expenditure needs for municipal hospitals, categorized by type of disease, type of patient and particular service provided (Bulgaria, 2001) In addition, the application of a regression approach in Bulgaria raises several important questions. Unlike the United Kingdom, there has been very limited local autonomy in Bulgaria. This means that the regression coefficients need to be interpreted with caution. Rather than reflecting differences in costs, needs and even preferences, those coefficients (weights) may reflect expenditure patterns that came out of the socialist planning era, when, for example, funding at the local level followed built capacity (schools, hospitals and so on) instead of needs and clients, and when many enterprises provided all basic services in a locality. After many of these public enterprises went bankrupt, there were no local budgets to pick up the slack in services.

As a result, Bulgaria is looking for alternatives to improve the process. One area of reform being considered is the adoption of more general indicators like population of the municipality, number of settlements, or geographic area.

As in many other transitional countries, there are no minimum expenditure standards in Bulgaria. This is partly a reaction to the strict physical and financial standards applied during planned socialism, which could never be implemented because of a lack of resources,. Nevertheless, line ministries and other central agencies have continued to discuss and issue “indicative” standards, which are largely ignored by subnational governments. But in Bulgaria, as in most other transitional countries, there is a continued interest in returning to a budgetary system that not only uses norms but gets them implemented as minimum standards.

## **Canada**

Until recently, the Canadian to grants and equalization was based on the revenue capacity of provinces. Since the provinces in Canada have greatly different per capita capacities to raise oil revenue, the central government applied a revenue standard that was the average of the middle provinces, thereby allowing the rich provinces to retain some of the of their excess revenue capacity. This provided for only partial equalization, and some provinces were able to provide better services or have lower taxes than others. Due to pressure from provinces, especially those on the Atlantic coast, expenditure needs eventually began to be included along with revenue capacity in the Territorial Formula Financing scheme (TFF) (Clark, 1997).

The TFF is an annual transfer from the federal government to territorial governments. This transfer enables territorial governments to provide a range of public services to their residents, and takes into account the higher cost of providing public services in the north of the country.

The territorial expenditure needs is captured by an index number called the Gross Expenditure Base (GEB), which moves with growth in provincial spending. It also is adjusted for territorial population growth relative to that for the whole of Canada (Anderson, 2000). Starting in fiscal year 2000-2001, the GEB was modified by limiting the cumulative growth of the GEB to the cumulative growth of Gross Domestic Product (GDP). This cap ensures that annual growth of the GEB does not exceed annual GDP growth in any particular year.

Though there are some technical complexities in the Canadian approach of assessing expenditure needs, the complexities do not arise from complicated measures of units of service. Instead, the Canadian system is based on readily available data on provincial spending. In particular, the Canadian system for measuring expenditure norms is very simple (Clark, 1997). The central government bases one of its transfers (for education and health) to provincial governments on an equal per capita assessment of needs, with additional requirements that the provinces follow some guidelines on accessibility and standards. The result is a practical process in which management and control are better handled and transparency goals are easier to achieve.

The use of minimum standards is quite common between the intermediate level of government, the provinces, and the local governments. Often the minimum standards are associated with categorical or conditional grants. As is the case in other federations, the Canadian Constitution gives the provinces complete discretion in the management of affairs with their local governments. This power is used to issue mandates and technical standards for important public services, such as health and education. But Canada has also been expanding the use of program evaluation or value-for-money audits.

## **Czech Republic**

The Czech Republic does not have a clearly defined system of equalization grants. Instead, it has a complex system of subsidies (or conditional grants), which are used by the central government to pursue a variety of policy objectives at the local level. A common feature of these grants is that they are earmarked for specific purposes in both current and capital expenditure activities. A first type of earmarked grants is for financing the central government's legally delegated responsibilities to local governments. These legally mandated grants are categorical and are to be spent on well-defined specific programs. Furthermore, they do not require any matching funds from the municipalities. In general, these transfers are distributed on a "per client" or "per head" basis, and cover expenditures in the areas of social assistance and benefits, kindergarten and primary education, selected hospital and assistance institutions, fire brigades, and the execution of general government services including registration and permits. A second type of specific subsidy for current expenditure activities is discretionary (as opposed to being legally mandated). These subsidies require application by the municipalities according to established rules, and are awarded

at the discretion of the granting central government agencies. Often, they may require conditional or matching financing arrangements by the municipalities. The Czech Republic does not have minimum expenditure requirements at the local level (Oliveira and Martinez-Vazquez, 2001).

## **Denmark**

In Denmark, expenditure needs are defined as the expenditure a given authority must make to supply its services at costs equal to the national average (Lotz, 1997). Numerous factors are used as indicators, with the weights on these factors sometimes determined by regression analysis. Total municipal expenditure needs are estimated as indicated in Table 2. These needs are then used to allocate general grants to jurisdictions.

Denmark in recent years has moved away from technical and financial minimum standards for local governments. Many of these standards in the past were set through a vast array of conditional grants from central government agencies. In recent years the central governments has merged many of the conditional grants into a few block grants. This policy move has meant that the minimum standards used in the past (with the conditional grants) have become general guidelines (with the block grants.) Local governments themselves are now setting their own performance standards.

## **France**

Several transfers in France are based upon estimation of expenditure needs (OECD, 1994). One grant is the urban solidarity grant, given to municipalities with more than 10,000 inhabitants. The grant first calculates a “synthetic need index”, using such indicators as the number of units of social housing and the number of housing units occupied by recipients of housing allowances, as well as several indicators of fiscal capacity. The grant received by a municipality then depends on its population and its synthetic need index, with an additional adjustment for municipality size. A similar grant is given to rural jurisdictions, with the synthetic need index calculated using population, road length, school population, and tax potential. Minimum standards for budget implementation at the local level are routinely imposed by the central government in the form of required procedures and technical standards.

## **Germany**

Germany uses grants to equalize the fiscal capacities of the states, and “interstate equalization payments” designed to compensate states for special burdens (Spahn, 1997). Of these, only the interstate equalization payments are based in part on expenditure needs assessments. A state’s expenditure need is calculated in a very simple and crude way, based upon the product of the national average of per capita state revenues and the state’s weighted population, with larger jurisdictions given a higher weight to reflect greater expenditure needs not captured fully in the population number. This approach essentially amounts to one in which revenues are equalized on a per capita basis. Also, in Germany the federal authorities set technical standards in areas of national interest such as social welfare or the environment.

## **Hungary**

Local governments in Hungary are required to provide a range of basic services in “as equal as possible” level of service to all citizen. One major source of funding for these services is a number of normative grants, including 11 normative grants in education, 6 in social assistance, and 5 for general assistance. The grants for education and social assistance are based on cost analysis, while those for general assistance are based on other indicators (e.g., per capita).

## **India <sup>11</sup>**

India has recently changed its methodology for allocating the major transfers from the central government to the states. The current system specifies that transfers are to be allocated 20 percent on the basis of population, 60 percent on the “distance” (or deviation) of a state’s per capita income from the highest income state, 5 percent on the basis of infrastructure, 5 percent on the basis of area, and 10 percent on the basis of tax effort.<sup>12</sup> As a result, expenditure needs are defined indirectly through a weighted index. With a strong federalist system, India’s states have substantial authority, and they exercise it to impose technical standards on their local governments. Some states, such as Karnataka and Kerala, are seeking ways to introduce performance-based standards.

## **Indonesia**

The new fiscal decentralization system in Indonesia introduced in 2001 has as one of its main components an equalization grant system where the actual grant amount is proportional to the difference between expenditure needs and fiscal capacity of each region. Expenditure needs are estimated as the product of a weighted four-factor index and local government expenditures. The four factors in the formula are population, land area, poverty incidence, and cost of living; population and cost of living are the most heavily weighted factors (40 percent each) and land area and poverty each receive a weight of 10 percent (Brodjonegoro and Martinez-Vazquez, 2002).

## **Japan**

The central government of Japan distributes nearly all of its grants to local governments in an attempt to equalize expenditure needs, as well as fiscal capacity.<sup>13</sup> Expenditure needs are estimated for the categories of police, public works, education, welfare and labor, industry and economy, and general administration. The expenditure norms do not correspond to actual government expenditures, but are based on the notion of a “model local government”, assumed to be a prefecture with a population of 1.7 million and an area of 6900 square kilometers, or a municipality with a population of 100,000 and an area of 160 square kilometers. For each category, the expenditure norm equals the product of three variables: the “unit cost” of the service as determined

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<sup>11</sup> See Rao (1997) for a detailed discussion of the system in India.

<sup>12</sup> The infrastructure index is computed by an “expert” group.

<sup>13</sup> More precisely, the transfers are roughly equal to the difference between fiscal needs and fiscal revenues.

annually by expert opinion; the “unit of measurement”, which is a variable that provides an appropriate measure of the utilization of the service (e.g., the number of police needed for adequate protection, the number of residents requiring fire protection, the length of roads); and the “modification coefficient”, a variable that reflects above- or below-average costs of provision.

The modification coefficients are at present classified in several different categories, and all attempt to adjust the standard unit cost of the service for extraordinary circumstances in the jurisdiction:

- *Class Modification Coefficient*, which adjusts the unit costs for differences in costs by type of school (e.g., engineering versus agricultural)
- *Size Modification Coefficient*, which adjusts for economies of scale due to a larger population
- *Density Modification Coefficient*, which adjusts for economies of scale due to a larger population density
- *Special Factors Modification Coefficients*, which adjust for factors like salary costs and housing allowances
- *Climate Modification Coefficients*, which adjust for higher costs in colder areas
- *Financial Capacity Modification Coefficients*, which adjust for higher fiscal needs in jurisdictions with higher debt service levels
- *Modification Coefficients*, which adjust for an increase in costs that might occur when the population of the jurisdiction decreases rapidly.

## **Korea**

Korea uses a similar system to Japan’s for one major component of its transfers to local governments, the local shared tax. The standard fiscal need component of this transfer is calculated as the sum of the costs of 29 different expenditure categories, where the cost in each category equals product of the unit cost of the service, the unit of measurement, and a modification coefficient, as in Japan.

## **Portugal**

The Portuguese grant system is a simple one, and uses an approximate measurement of expenditure norms for one of its grants, the Financial Equalization Fund. The norms here are based on a range of indicators of cost, as well as those that reflect above- or below-variations in these costs. Each jurisdiction receives a general grant allocated as follows: 45 percent in proportion to a jurisdiction’s population, 15 percent divided equally across jurisdictions, 15 percent in proportion to area, 10 percent in proportion to road length, 5 percent in proportion to the number of children, 5 percent in proportion to the number of parishes, 5 percent to areas with low accessibility, and 5 percent to

areas with low tax bases. These factors are largely chosen to reflect the costs of service provision in municipalities.

## Spain

Spain recently reformed its grant allocation to regional governments (Brosio, 1997). In the new system, grants are allocated on the basis of six indicators: population, area, number public agencies transferred from Madrid to the regions, distance from Madrid, relative wealth, and fiscal effort. Of these six factors, the first four receive the highest weights, and are roughly indicative of expenditure needs.<sup>14</sup> Grants to municipalities use a similar, if somewhat simpler, formula based upon population, area, the number of public schools, and tax effort.

## Sweden

As in Spain, recent reforms in Sweden have simplified the grant system by abolishing a number of categorical grants and replacing them with a block grant allocated for three purposes: to equalize revenue capacity, to supplement the revenues of municipalities experiencing long-term population loss, and to equalize cost differences in service provision. The last purpose requires measurement of expenditure norms. Calculation of the norms considers many need indicators, meant largely to capture differences in cost. A jurisdiction with a higher percentage of elderly individuals will have greater demands for health care; similarly, a higher percentage of school-age children will require more education expenditures, and higher women's labor force participation rates will lead to more expenditures for day care. A municipality with more area will have higher transportation costs for school buses and assistance for the elderly and the disabled. The new system tries to explain a jurisdiction's per capita expenditures using regression analysis to assign weights, including as explanatory variables climate, age structure, population density, and social structure.

## Switzerland

Expenditure needs are one factor used in allocating transfers in Switzerland. The Swiss method for measuring expenditure needs is very similar to that used in Germany. A canton's expenditure need equals the product of the national average of per capita canton revenues and the canton's population. Additional adjustments are made that reflect higher costs of service delivery in mountainous regions and in densely populated areas. This approach leads to modest equalization.

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<sup>14</sup> For example, for most categories of grants, the weights are:

<u>Factor</u>	<u>Weight</u>
Population	0.590
Area	0.160
Distance	0.007
Administrative Structure	0.243
Relative Wealth	0.045
Tax Effort	0.050

Note that the weights do not sum to unity. For education, the formula differs slightly, with population having a weight of 0.844 and distance having a weight of 0.150.

## **Ukraine**

With the introduction of a new Budget Code in 2001, Ukraine adopted a novel new methodology to estimate expenditure norms. These norms are used for budget formulation and especially for the computation of equalization grants, but are not supposed to be followed during budget execution and they do not act as minimum expenditure requirements for local governments. The unified norms of per capita (or per client) expenditures are computed for administration, health care, culture and sport, education, social security, and social protection. The first step in the derivation of the norms is to establish the overall amount of expenditures. Next, the total amount of expenditure is divided into separate functions such as primary health or secondary education. Dividing the expenditure in each function by population or the number of clients allows the derivation of the basic expenditure norm per capita or per client. The basic norms are then adjusted for each jurisdiction by indexes that approximate relative needs plus reliable data on the differential costs of providing the services. These adjustments bring the expenditure need estimate above or below the national average. For example, the cost of educating a special student may be twice as much as educating a general student; similarly, students attending a general school in mountainous regions may cost fifty per cent more per student than a general student in a city. Equalization grants are computed accordingly, but local governments are then free to spend these and other funds at their own discretion. Ukraine does not currently impose minimum expenditure standards, although there continues to be an active discussion of this issue.

## **Some Recent Innovations in Budgeting and the Evaluation of Expenditure Needs**

This section reviews recent approaches to budget practices of specific OECD countries, such as Australia, New Zealand, the United Kingdom, and the United States. All of these countries have recently introduced important innovations in their budgeting approaches, many of them with significant implications for how to determine the actual expenditure needs of governmental departments and agencies.

### **Assessment of Future Expenditure Needs Via a Performance-based Approach**

Waste and inefficiency in government programs undermine the confidence of the people in its government and reduce the government's ability to address adequately vital public needs. In addition, spending decisions are seriously handicapped by insufficient information about public program performance. The United States federal government has been going through important budgeting reforms, with the objective of improving public services and especially of spending more efficiently. An important step toward these objectives was the Government Performance and Results Act (GPRA) of 1993. GPRA seeks to make government more accountable and to improve the way federal agencies manage their programs and carry out their activities.

Primarily, the act requires agencies to plan more effectively and to disclose more information about program performance. One goal of GPRA is to improve decision making about the funding of agencies. This requires a re-analysis of expenditure needs and new ways to evaluate them. GPRA proposes a whole new process to establish how expenditures should be set-up and creates innovative steps in the early budgeting process to support more efficient service provision.

The process starts with agencies and other government units making a comprehensive mission statement covering their major functions and operations. Then they have to set up general goals and objectives, including outcome-related goals and objectives for the major functions and operations of the agency. These statements of goals and objectives include a description of how the goals and objectives are to be achieved and descriptions of operational processes. Each agency must explain which skills and technology are required and how many people, how much capital, and what information and other resources are required to achieve stated goals and objectives (GPRA, 1993).

This process ultimately defines the expenditure needs of an agency or government unit. Furthermore, the goals and objectives established at the beginning of the fiscal year have to be compared to the results achieved at the end of the year. This performance evaluation also will be relevant information for determining “new” expenditure needs for the coming years; that is, if the agency is failing to deliver a program or activity, policymakers may decide that the agency does not need additional program expenditure, and the program may even be canceled or transferred to another agency. Put differently, the level of expenditure needs may vary from year to year based upon the results of the end-of-year performance evaluation.

The general aim of the reform is to continue spending where performance is good. This means that government units are not entitled to receive an equal or a greater amount of funding from year-to-year simply by inertia.

Also, indicators such as physical space, the number of personnel, and other similar variables are no longer the ones that define expenditure needs. Instead, the objectives and goals of the agency and the “resources” needed to achieve those goals are the ones that define the necessities of an agency.

The economic analysis of the costs and benefits of each program and its objectives or goals within an agency is another important component of performance-based needs assessment. This process assesses whether the benefits of an action are likely to outweigh the costs. Properly handled, this process helps to improve transparency in government expenditure. The basic analysis should contain three main elements: a statement of need for the proposed action, an examination of alternative approaches, and an analysis of the costs and benefits of identified alternatives.

Nevertheless, there are many challenges in this new approach. In many cases, isolating and identifying the precise contribution of a government program to a given outcome is not a small challenge. Desired outcomes of an agency’s programs may have multiple causes, some of which may be unrelated to the activities of the agency’s programs. For example, crime reduction may have as much to do with demographic changes and the strength of the economy as with the efforts of federal crime prevention programs. For some activities, the task of evaluating and assessing needs

based on objectives and performance could be very difficult and subjective. Nevertheless, this process is a good way to improve efficiency and performance delivering public services (CBO, 2001).

Another important issue is that decision-makers seldom agree about how to rank goals. An interesting example in the United States is the food stamp program. To some, the program's primary objective is to provide food and nutrition to the nation's poor. For others, its principal aim is to increase demand for agricultural products and stabilize crop prices. Policy makers may also disagree about whether programs should be concerned primarily with cost or with the level of service they provide (CBO, 2001). The inability to agree on a program's priorities makes it difficult to evaluate actual expenditure needs and to measure the success of a program against established criteria.

A further challenge to expenditure setting and goal measurement is that government programs normally vary widely, and, as a result, the hurdles facing agencies may also vary in type and difficulty. For example, grant programs present special problems because the funded activity is only partly under federal control.

Finally, agencies face incentives that discourage them from fully and openly disclosing how well or how poorly they perform. Federal employees and managers may prefer to report only favorable results, if they fear that doing otherwise will result in budget cuts. The solution, in part, is to have the process of establishing objectives and goals in terms of resources standardized as much as possible. Thus, the formats and the processes for setting objectives, establishing needs, and reporting outcomes should leave as little as possible to the discretion of agency officials.

### **Performance Contracts**

In some countries, performance targets are set out in formal contractual agreements. These contracts specify the output or results that a governmental unit or a manager is committed to produce with a given level of resources. For example, the Australian system of resource agreement on the funding of a new computer system may specify the staff reductions to be achieved. In New Zealand, legislative appropriations are being made on the basis of the agency's agreed level of output.; also, chief executives, senior and middle managers of public units in New Zealand are employed under term contracts, which specify the key results expected of them (Schick, 1995).

The quality of public services depends not just on how much the government spends but also on how effectively it spends it. With this concept in mind, the government of the United Kingdom published in December 1998, for the first time, measurable targets for the full range of public services, called Public Service Agreements. These targets set out the results that taxpayers' money is intended to deliver and the service standards that the public should expect (HM Treasury Spending Review, 2000).

These examples illustrate how budget norms and minimum standards are evolving toward a wider concept of efficiency, not unlike what we expect to find in the private sector. However, this road has just begun in a small number of OECD countries. The experiences of these countries show

promise for performance-based standards, but also clearly show the difficulties and complexities of this approach.

## **Assessing the Benefits and Costs of Expenditure Norms**

Budgetary norms and minimum standards are not necessary for the proper functioning of the budget process at the national or subnational levels. However, many countries use some sort of budgetary norm or standard for budget formulation. As we have seen in the previous section, these norms can vary from the very informal and loose to the highly formal and precise. The use of norms as minimum standards for budget execution and control of local budgets is in place in many countries, but may not be as common. Some countries that use expenditure norms for budget formulation purposes do not require local governments and other agencies to follow them during budget execution.

The use of budgetary norms can be helpful, for example, by allowing more transparency in the budget. However, the use of some norms, such as budgeting on the basis of existing physical capacity, may lead to highly inefficient outcomes.

The expenditure needs of a subnational government may be defined as the funding necessary to cover all expenditure responsibilities assigned to the region at a standard level of service provision. In practice, we have seen there are several options to measure differences in expenditure needs across subnational governments.

### **What methods can be used to estimate expenditure needs?**

First, expenditure needs can be measured from the bottom up, developing norms that estimate the cost of current expenditure obligations of local governments or a standardized basket of subnational government services. This approach can be extremely data intensive, demanding much information, and it requires quite explicit procedures for costing all aspects of the expenditure responsibilities of subnational governments. An important disadvantage of this approach is that there is no guarantee that the expenditure needs so derived are affordable within available budget resources. The lack of funds, of necessity, will require a downward adjustment of the computed budgets. This often can become a source of frustration for government officials and disenfranchisement for citizens. More problematic is that the measurement of the minimum or standard level of expenditure for a particular service category is inherently subjective. The notion of what ought to be the standard level differs wildly across individuals depending upon their income, education, preferences, ideologies, and the like. It is because of this subjectivity that standard approaches rely upon calculating the unit cost of a standard level of service. However, it is impossible to include all relevant cost considerations in the unit cost approach; indeed, the concept of a “standard” level of service is unclear.

A second approach is to estimate some type of index of relative expenditure need. Implicitly, this is what is done when a weighted-factor mechanism is used in order to allocate equalization

grants. These indexes attempt to capture, from simple to more complex ways, the factors that determine cost differences in delivering a standard package of local government services. These factors include demographic variables reflecting, for example, the special needs of the young and the elderly, other factors such as the level of poverty and unemployment, and differences in the price level or cost of living. The criteria entering the index and their weights need to be carefully assessed to capture differences in the costs of public service delivery across jurisdictions in the index.

A third way to establish the expenditure needs of local governments is to ensure that expenditure norms are fiscally affordable by either relying on historical expenditure patterns or by using a top down process that starts from total available resources, as is the case now in Ukraine. One way to utilize historical data is to use regression analysis. A regression approach is proper under some limited circumstances. In a decentralized system of governance, where local leaders are elected by popular vote, it may be expected that local politicians will attempt to levy local taxes and provide local public services in such a way as to satisfy a majority of the electorate. Thus, in a decentralized system where local governments have a fair degree of revenue autonomy and budgetary discretion, economists can learn something about the demand for government services by studying the variation in local expenditures and relating these through regression analysis to variations in population, area, cost of living index, share of the population in school age, and other socio-economic characteristics of local governments. These regressions provide information on what causes variations in the demand for local public services or fiscal needs.<sup>15</sup>

However, there are also problems with the regression approach. Expenditures vary across jurisdictions for many reasons apart from need, and, again, it is impossible to include all such factors. The resulting estimates reflect actual expenditures, and there is no reason to believe that actuals are the same as needs. The estimates also commingle the various effects of needs, demands and preferences, costs of provision, fiscal capacities, and willingness to pay taxes on expenditures. To the extent that the estimates reflect differences in demands and preferences, in service costs, in fiscal capacities, and/or in a willingness for residents of a jurisdiction to tax themselves, rather than differences in needs, the estimates do not reflect expenditure needs. Finally, regression analysis generates estimates of the factors that determine a jurisdiction's expenditures but only relative to those of other jurisdictions. Relative expenditures clearly may not be the same as expenditure needs.

Indeed, there is an inherent tradeoff in the methods used to estimate expenditure norms. On the one hand, the simplest method to apply and to understand is one based upon obvious, intuitive, and easily attained factors (e.g., population, number of students, length of roads). On the other hand, such a simple approach is unlikely to measure accurately the true underlying cost of service provision. Accurate measurement requires the application of more comprehensive approaches, such as those used in Australia or in Ukraine. However, these latter approaches are extremely

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<sup>15</sup> But note that, as argued above, the use historical data and regressions analysis may not yield an improved understanding of the demand for local public services in many developing and transitional countries. Historically, local governments in many of these countries had little or no budgetary discretion and limited tax autonomy. In the absence of local discretion, variations in local public spending across local governments may not reflect variations in the need for local expenditures.

complicated, their data requirements are very severe, and they are especially difficult to explain and to understand. They can also be quite sensitive to the specific explanatory variables included. Neither of those two approaches are very intuitive and easy to comprehend by stakeholders. The more intuitive method is the unit cost approach estimating expenditure needs from the bottom up. However, as we have seen, this approach can lead to unrealistic budgets and unhappiness everywhere.

### **What data are needed to calculate an index of relative expenditure needs?**

Assessment of expenditure needs and revenue capacities can be as sophisticated and comprehensive as data permit. We have seen that some countries use sophisticated procedures including regression analysis to arrive at a long list of expenditure norms and needs estimates. However, many other countries take the simpler approach of approximating expenditure needs through a series of indicators. The notion of measuring expenditure norms by several indicators seems a simple and compelling one. However, there are a number of questions about the use of this method to measure norms.

In reality, there are a variety of indicators that can be used to reflect the expenditure needs (and fiscal capacities) of regions. The choice of indicators should depend on the expenditure assignments adopted in the country and the government's objectives. The selection of indicators and the weights assigned to them involve several tradeoffs. Approximating expenditure needs well may require using a considerable number of indicators. However, the inclusion of too many indicators reduces transparency and increases the costs and difficulty of updating the procedures. A larger number of indicators may also introduce more opportunities for political manipulation.<sup>16</sup>

Some examples of expenditure need indicators include the following:

- Per capita income level
- Poverty incidence
- Unemployment rate
- Population density
- Geographic area
- Infant mortality
- Life expectancy
- School enrollment rate
- Other indicators of development (e.g., electricity consumption, number of telephone lines, miles of roads)

The weights attached to the indicators in a formula typically will reflect the relative importance of the different factors in the measurement of needs. However, these weights may also reflect the

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<sup>16</sup> There is a potential risk for subnational authorities to put pressure on subnational statistical offices and government officials at the regional and local levels to misreport data in order to increase their share in the overall pool of equalization transfers.

policy objectives of the central and subnational governments. As a result, the actual weights applied to a given factor vary from country to country.

The data used in assessments can be from any source. Nevertheless, there are several attributes apart from their relevance to assessments that make some data more appropriate than others (Ahmad, Hoffman, Ma, Rye, Searle, and Stevenson, 1999; Martinez-Vazquez and Boex, 2000). These attributes are:

- Data should be available for each unit of government. If not, it must be possible to use the data for one region (province, state, or territory) as an appropriate indicator of need in other regions.
- Data should be comparable across units of government. This is important to the final result because lack of comparability in the data could generate major distributional consequences.
- Data should accurately reflect the specific characteristics associated with needs (they should be statistically sound).
- Data should be sourced to an independent authority so that they cannot be manipulated by the central government or one or more local governments. This is important to build trust and minimize grant design inefficiencies.
- Data should be updated with some frequency, every two years if data are available, although new population data will be available generally with a new census.
- It is common to find that data relating to differences in demand are much more likely to be available than those relating to differences in unit costs. Influences on regional variation in unit costs differ widely and are much more difficult to measure, while data for service demands is often used as management tool and are thus more widely available.

There are also choices of indicators in the formulation of expenditure needs that can be quite problematic. Some countries use as part of their expenditure needs formula a separate component that provides a lump sum or "equal share" amount for all local governments regardless of size or any other factor. The use of an "equal share" amount is often justified as providing for the fixed costs or overhead of maintaining a government. However, this approach also raises questions of fairness because in per capita terms larger governments receive less, and it also creates incentives for subnational governments to fragment or stay small. An even more questionable practice is the use of physical infrastructure measures, such as hospital beds or school buildings in the determination of norms and expenditure needs, for several reasons. Wealthier local governments would likely have more infrastructure built, so poorer local governments would receive fewer resources, and the use of physical inputs in expenditure norms creates distortions and incentives to build and keep excess capacity.<sup>17</sup>

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<sup>17</sup> See, for example the discussion for the Leningrad region in Russia by Bahl, et al. (1999).

## **Is there a role for efficiency indicators in calculating expenditure needs?**

Efficiency is an important consideration in the budget process, and has traditionally been measured as the ratio of inputs to *outputs*. The new element added in performance-based budgeting is the ratio of inputs to *outcomes*. An example of this is cost per person served whose condition improved significantly after receiving the service. The more traditional, output-based efficiency indicator is simply cost per person served.

When reasonably solid numerical relationships exist between outputs, outcomes, and the associated inputs, past data can be used to develop historical unit-cost figures, such as the cost per lane-mile of road maintained or the cost per lane-mile rated as in good condition. These figures can then be used to make estimates for the current budget year. Likely future factors should consider any planned price changes, any new technologies that might be used and their cost, and any indications that repairs will be more extensive or more complex than in past years.

Some outcomes, such as the number of lane-miles expected to be repaired during the budget year for a given dollar allocation, should be available. Budget preparers and reviewers can then examine various levels of the number of lane-miles to be repaired for various levels of expenditures and then estimate the number of lane-miles that will be in satisfactory condition for each expenditure option. The range of estimates will inform decisionmakers of the tradeoffs between costs and outcomes, so they can select their preferred combination.

## **Who should manage the assessment of expenditure needs?**

Managing the assessment of expenditure needs requires integrity, expertise, and the confidence of all governmental units in the country. This is particularly important when talking about grants, where buy-in by subnational governments in the system and its administration is essential. In most countries, a government department like the ministry of finance operates the system, including the equalization grants and transfers. This can work quite well as it does in many OECD countries. However, some academics and policymakers recommend that the expenditure needs assessment process calls for “independence” from the central executive government in power. Indeed, some countries have created independent agencies to operate their grant systems. For example, Australia has the Commonwealth Grants Commission (CGC), and South Africa has the Financial and Fiscal Commission (FFC). In both cases these independent agencies work outside of executive government structures.

The CGC in Australia has 66 years of experience, and is accepted and recognized in that country as an impartial, professional, and transparent arbitrator. This situation has created a sound environment, and has provided a forum for continuous improvement in the administration of the grants system. Some of the regular practices of the CGC are:

- Providing discussion papers simultaneously to all state and territory governments and the National Treasury and ensuring that all responses and other submissions are distributed to all parties.

- Providing for successive rounds of submissions from states and the national treasury, so that each has full opportunity to comment on the arguments of others.
- Holding conferences on functional and general topics, which allow state and national government experts in such areas as education and health to exchange ideas and new perspectives with each other and with the CGC.
- Visiting each state and territory in order to conduct discussions with officials in their capital cities and in other areas of the country, and to talk with service providers at schools, hospitals, police stations, and the like about their views on service provision and cost issues.
- Sending out its reports simultaneously to all levels of government.

## Lessons and Policy Alternatives

At bottom, the measurement of expenditure norms is an inherently difficult task, with no single correct approach and no universally accepted measure. One of the major lessons is that there is not a perfect system that can be applied to all countries. Each country has a different level of development in their infrastructure, public administration, and economy. At the same time, each country possesses particular characteristics in terms of territory, population, policy objectives, and national ethos that make it unique. Countries are likely to make different choices between approaches that are simple and transparent but may be somewhat inaccurate and approaches that are more accurate but also more complex and less transparent. It would be impossible - and undesirable - to adapt the same system to countries with such different conditions.

Nevertheless, the experience of various countries suggests some general lessons.

**First**, estimation of expenditure norms requires much effort, much judgment, and much cooperation among officials across the various levels of government.

**Second**, the methods used to measure expenditure norms can have significant effects on subnational government behavior. Care must be used in choosing the system, in order to minimize distortions.

**Third**, estimation of a complete system is a daunting task: the data requirements are extensive, and the transparency of such a system is limited.

**Fourth**, as a result, a more limited approach that is based on easily available data and that is easily understood is likely to be preferable, even if its equalization features are not as complete and its incentive features are more limited. Indeed, there is clear tendency across OECD countries to adopt simple processes, particularly in terms of the definition of services units. Since perfect data and information are not commonly available or easily updated, the design of expenditure needs in

equalization grant formulas may need to be based on simple indicators that provide reasonably good measures of the expenditure needs of sub-national governments.

**Fifth**, and related, there is a clear need for transparency in setting expenditure norms. In this regard, a good case can be made for an independent authority in this assessment. In order to be successful, the authority in charge of the process requires integrity, a clear legal framework, and public availability of information among others. This may be best achieved by an independent agency.

**Sixth**, some equalization elements need to be present to ensure political support. Indeed, the determination of expenditure norms is at bottom a very political undertaking.

**Seventh**, there is, in general, no need to use the expenditure norms as minimum standards for budget execution. The introduction of minimum standards involves a tradeoff between national objectives and local government autonomy. Where the establishment of minimum standards is required, for example to protect national priorities, these standards should be determined in terms of performance and outcomes as opposed to inputs and outputs, where possible. Safety standards, for example, will need to be issued in terms of inputs.

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Table 1. Expenditure Need Factors: England and Wales, 1975-1979

<i>Factor</i>	<i>Year</i>			
	1975-76	1976-77	1977-78	1978-79
Over 50 persons per acre	X	--	--	NT
Persons per acre	NT	NT	NT	X
Acres over 1.5 per head	X	X	X	NT
Acres over 3.0 per head	X	--	--	NT
Acres per person	NT	NT	NT	X
Housing starts	--	X	--	--
Population decline over 10 years	X	--	--	NT
Population decline over 5 years	--	X	--	NT
Elderly living alone	X	X	X	--
Persons lacking basic amenities	NT	X	X	X
Overcrowding	NT	X	X	NT
Shared households	NT	NT	X	NT
Lone parent families	NT	X	X	--
Unemployment	NT	NT	X	X
Labor cost	NT	NT	X	X
Primary school pupils	X	X	X*	X*
Secondary school pupils under 16	X	X	X*	X*
Direct grant pupils under 16	X	X	X*	X*
Secondary school pupils over 16	X	X	--*	--*
Direct grant pupils over 16	X	X	--*	--*
Full-time further education students	X	X	--*	--

X : Selected  
 NT : Not Tested  
 -- : Tested but not selected  
 \* : Combined factor

SOURCES: Jackman (1981) and Jackman and Papadachi (1981).

Table 2. Expenditure Need Factors: Denmark

<i>Factor</i>	<i>Weight</i>
Population	0.212
Number of individuals aged 0-6 years	0.092
Number of individuals aged 7-16 years	0.227
Number of individuals aged 65-74 years	0.034
Number of individuals aged 75-84 years	0.075
Number of individuals aged 85 and over	0.056
Kilometers of road	0.031
Number of standardized apartments	0.017
Number of children of single parents	0.075
Number of full-time unemployed individuals	0.025
Number of employed women aged 20-66 years	0.025
Calculated cash benefit expenditure	0.056
Residence criteria	0.075

SOURCE: Lotz (1997).