

# ***EVALUATING PROJECTS AND PROGRAMS IN THE SOUTH AFRICAN PUBLIC SECTOR***

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## **ABSTRACT**

**T**he discussion of the paper begins with a summarized discussion of some of the major complexities involved in public sector performance evaluation. This is followed by a discussion of the literature of the actual methods of evaluation for public projects and programs (IRR, NPV, cost-benefit analysis and its many considerations). The final section of the paper critically targets the approach being taken in the South African public sector with regard to performance evaluation.

## **INTRODUCTION**

**W**orldwide, there exists a strong current of opinion that private business operates more efficiently than public organizations as can be deduced from the culmination of the overwhelmingly international trend towards privatization. This public mind-set can be traced back to the earliest branching off within the field of accounting to form government accounting/public accounting.

In the United States (circa early 1950s), for example, not only was there a drive within management circles in government to emulate operating practices employed in the private sector (Meyer 1985: 26) but additionally the accounting practices of private industry were seen as an important tool for improved performance via the evaluation feedback loop.<sup>1</sup>

Unfortunately, this view of improving performance and efficiency overlooked the fact that any activity, be it private or public has effects beyond those intended. As an imperative, these external effects must be taken account of if the objective is to make the evaluation as complete, accurate, meaningful and useful as possible.

When formulating an opinion on the performance of an organization (public or private) precaution must be taken such that one's view should not be limited to quantitative considerations of revenues and expenditures whilst overlooking the objectives of the organization and the outcomes of the organizations activities both quantitative and qualitative. As will become apparent from the discussion that follows, this is especially critical for public sector organizations.

The importance of program evaluation goes beyond simply taking “good” evaluation as an end in itself, but rather as a means to an end. Organizations and their sub-structures come into existence to meet specified goals and must therefore be continually evaluated to measure their effectiveness in meeting these goals. The outcome of the evaluation may result in either a change in the goals required of the organization, change in the organization’s procedures and methods, or change in the organization by way of growth, reorganization, or reduction. Thus, the importance of evaluation relates to its implications for structural and required change in organization. The processes for conducting such evaluations in the South African public sector and the pertinent issues thereof are the subject of this paper.

## COMPLEXITIES OF PUBLIC SECTOR EVALUATION

Santon (1981:18) makes the point that “...the truth that structural reorganization is painful, costly, and uncertain in outcome argues that it should not be undertaken until the evidence is clear that current structures are inadequate and that the changes proposed will actually improve matters”. The clarity of this point is underscored by the complexity of the task(s) involved in assessing administrative outputs and arriving at optimal solutions for actual or perceived inadequacies.

Three distinguishable and complicating features of evaluation of government programs can be identified. First, is the problem of determining the appropriate variables to use to represent such performance measures as benefits and costs (or gains and losses). The benefits to consumers of the construction of a road may include, for example, savings in the form of reduced costs for transported goods; reduced travel costs due to savings in petrol consumption; and time saved as a result of reduced traffic. Determining and arraying these variables can prove to be a time consuming and difficult task.

Incompatible with the Pareto<sup>2</sup> standard of efficiency, most government programs affect several groups of stakeholders at once, producing gains for some and losses for others. Thus, given that governments are responsible to all of its citizens for their welfare and wellbeing, evaluation of government programs should include the benefits and costs accruing to all these citizens. For example, a government program may provide benefits to consumers through lower costs for services, while causing losses for both alternative suppliers of the service and taxpayers who finance the program. The gains and losses for all three stakeholders must be included in assessing the success of the program (Gramlich 1981:44).

Second, another complicating factor is that many of the variables considered as gains and losses are not easily quantifiable and thus measurable. In line with a government’s obligations and commitments to its citizens, program benefits and costs must be evaluated beyond profit maximization results and take account of non-monetary variables such as pollution, health and safety, or even wastes of people’s time. Changes in any of these accounts should be included in the calculation (Gramlich 1981:4-5).

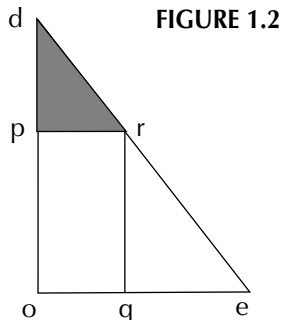
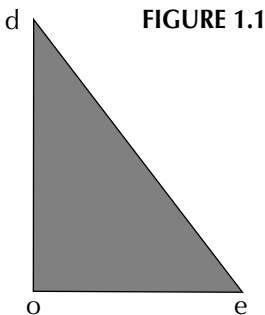
Third, the pricing of resources or benefits is more complicated for public than for private enterprises. Whereas private business evaluates benefits and costs using market prices alone, governments may have to adjust market prices to reflect social costs or benefits that are not captured in these prices (Gramlich 1981:4). The prices that are adjusted to take account of such externalities are known as shadow prices (see Mishan 1976: chapters 13 and 14).

## METHODS OF EVALUATION

The methods of evaluating the performance of government programs and projects have long been a subject that has challenged researchers in the social sciences. The approach taken by scholars of management and administration tend to focus on the internal encumbrances to effective performance, such as communication, compensation and motivation. Examples of theories and methods from this field include the goals approach and participant satisfaction surveys (see Rainey 1991:208-218).

In contrast, the standard method employed by economists (and consequently the focal point of this paper) in evaluating public and private programs and projects is the benefit-cost analysis (BCA) method, the central criterion of which is simply that the benefits of a program must outweigh its costs. Compared to the general approach of management and administration scientists, the economists' analysis has focused much more on the environment external to the organization, taking as the key determinant of public performance the concept of consumer surplus. Consumer surplus is basically a representation of the degree to which program clients/consumers value program goods and services and can be defined as the excess of the amount a consumer is willing to pay for a given good or service over the amount actually paid (Mishan 1976: 25). Graphically, consumer surplus is an area under the demand curve that is specified by (or a function of) the demand curve, price, quantity demanded, and marginal and average costs (Mishan 1976:17-54).

### Demand curves and consumer surplus



(Adapted from Mishan 1976:27)

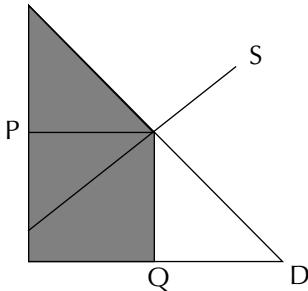
The demand curve for consumer goods and services is a function of sundry variables and includes income distribution, consumer tastes, and the prices of substitute and complementary goods. When graphed, the demand curve shows the maximum amount consumers are willing to pay for the goods or service in question. Therefore, it can be seen that any point above (to the right of) the demand curve would represent a loss to consumers, and any point below (to the left of) the demand curve represents a price that is below what the consumer is willing to pay at that given quantity and is thus a gain to consumers. In the limiting case of a free public service to consumers, the entire area under the demand curve (the shaded area of figure 1.1) is equal to or less than the maximum amount consumers are willing to pay for the service, and thus the entire shaded area represents consumers surplus (Mishan 1976:27).

However, in valuing a government service, we need to shift the focus of the analysis from that of the consumer surplus of program clients/beneficiaries to measuring the consumer surplus of society as a whole. Indeed, it is important to know how well the intended beneficiaries of a program are being served, but since many of the costs for providing these services are borne by taxpayers (and other citizens by way of external effects), the cost-benefit analysis must be considered from the broader societal perspective. Thus the truism that no public service can be provided “free” i.e. without cost to either taxpayers, the consumers of the service, or society at large comes into play.<sup>3</sup>

The demand curve for society then, can be represented as the cumulative demand of all of society for that specific government program as determined by the median-voter.<sup>4</sup> With this demand curve specified, figure 1.2 shows that at a given quantity ( $q$ ) of service desired by society, the price ( $p$ ) is the price level at which government will provide the service. Total expenditure of society is simply price times quantity which is graphically equivalent to the vector  $op$  times the vector  $oq$ , and thus also equivalent geometrically to the area  $oprq$ . The area  $qodr$  represents total gain to consumers at quantity ( $q$ ). Subtracting program expenditure  $oprq$  from total gain to consumers  $qodr$  leaves the area  $pdr$  which is defined as consumer surplus (Mishan 1976:27, Gramlich 1981: 29). Consumer surplus, once determined, must be included as a benefit in the cost-benefit analysis (Mishan 1976:27).

Prato (1998:127-8, 266-7) extends the considerations of cost-benefit analysis to include the concept of Net Social Benefit (NSB). As opposed to the cost-benefit evaluations that take *consumer* surplus to be the most pertinent (and in some cases the only) measure of social benefit, NSB includes the benefits and costs of both *producers* and *consumers*. Given that NSB is the amount by which benefits exceed cost, Prato demonstrates that the entire area under the demand curve up to point ( $q$ ) comprises consumer and producer benefit, and the entire area up to the same equilibrium point ( $q$ ) under the supply curve represents consumer and producer cost. Thus, subtracting the area under the supply curve from the area under the demand curve specifies the area considered NSB which is therefore equal to consumer surplus plus producer surplus.

## Net social benefit of consumers and producers



**FIGURE 1.3**  
(Adapted from Prato 1998:127, 269)

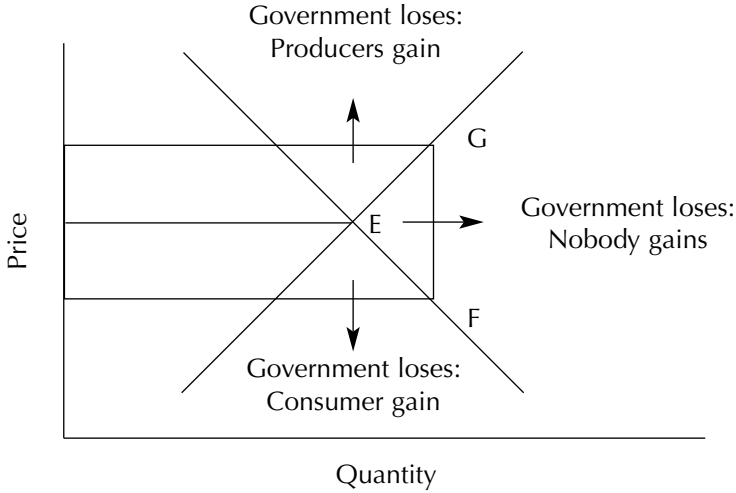
Whether or not one chooses to think of total social surplus to include producer surplus, depends on the evaluator's perception or treatment of the institution of government. For those who argue that government constitutes the collective will of society and that costs incurred by government are in actuality costs to taxpayers and citizens; to equate government costs of providing public services with producer costs, would amount to double-counting that which has already been estimated as consumer costs.<sup>5</sup> Thus, this rationale would lead to the conclusion that cost-benefit calculations should be limited to considering the gains and losses of two sets of stake-holders only - either private producers and private consumers, or government (as producer) and private consumers, or government (as producer) and private producers (as the consumer).

A more complete and perhaps more legitimate cost-benefit comparison would be to consider separately the gains and losses of consumers, producers, and government as done by Harberger (cited in Haveman & Margolis 1983:Chapter 5) in contrasting the evaluation methods of cost-benefit analysis with the basic-needs approach.

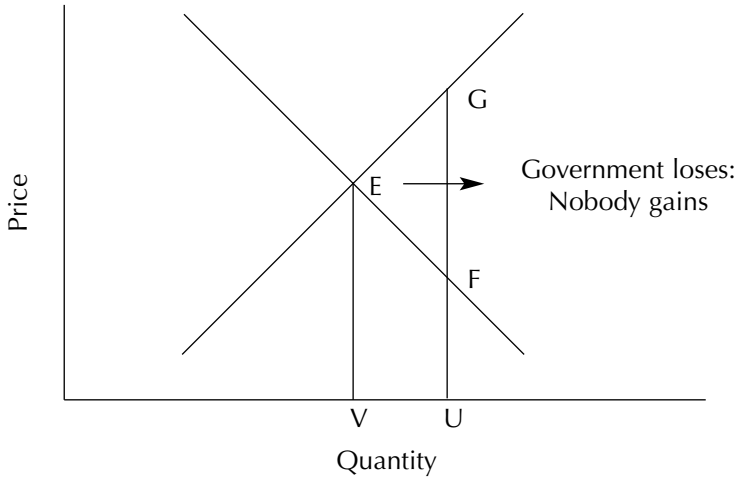
In his analysis a government subsidy simultaneously causes a loss for government and gains for both producers and consumers, or a loss for government and neither producers or consumers gain.

From figure 1.4 we see how the interests of each of these three stakeholders can be considered together graphically. This graphical presentation works well to elucidate cost-benefit results of changes along the price axis. The total cost to government of the subsidy is given by the area TRGF and the proportion of this subsidy that is a benefit to producers is given by the area SRGE, while the benefit to consumers is depicted by SEFT. Alternatively, the basic-needs approach considers the same problem but from the vantage point of the quantity axis as shown in figure 1.5. Both approaches lead to the same result in this simplified example.

### Cost-benefit analysis to include government



**FIGURE 1.4**



**FIGURE 1.5**  
(Fig. 1.4 and 1.5 adapted from Haveman & Margolis 1983:115)

The advantage of the preceding graphical presentation of cost-benefit analysis is that it simplifies and clarifies the concept of consumer surplus and its relationship to its determining factors. However, the graphical analysis requires pragmatic application

using real world numerical examples. This would entail a three stage process of first identifying and listing all benefits and costs, second, converting them to their present values, and third to compare these by ratio or net benefit. The first two stages of the process will be addressed here as they are the more important and complex as compared with the final stage which simply requires a comparison of costs and benefits either by subtracting the former from the latter or by taking the ratio of benefits to costs.

## BENEFITS AND COSTS TO INCLUDE IN CBA

Answering the question as to which costs and benefits must be included in CBA requires a consideration of society's<sup>6</sup> gains and losses in general as well as requiring a definition of the relevant *primary* stakeholders to include in the CBA analysis. Therefore, it can be considered, for example, whether a program to widen a road can be evaluated similarly to a program that provides welfare benefits to the elderly.

Government agencies, the programs they oversee and the services they provide can best be understood and evaluated in terms of the following three basic functions of government – allocative, distributive, and regulatory (Gramlich 1981: 35).

**Allocative expenditure programs** are those that simply allocate funds for the provision of public services at the national and sub-national level such as national defence, police services and fire protection. This category also includes physical investment programs – which are those programs whose services involve the provision of some capital construction such as infrastructure (roads, bridges, and dams). By their very nature physical investment projects will undoubtedly effect change upon the environment and may thus require a unique set of evaluation tools (within the cost-benefit model) manifestly different from those required of other types of programs. An excellent example of this is the environmental impact assessment required of most physical investment projects. As in most developed and developing/emerging market economies, the *Constitution of the Republic of South Africa*, Act 108 of 1996 (in the Bill of Rights) supports and promotes legislation that ensures the prevention of pollution, promotion of conservation, and the assurance that economic and social development will not contravene ecological sustainability. Further, a significant yet recent piece of South Africa's legislation in this regard is the *National Environmental Management Act*, 1998 (Act 107 of 1998) that as its basis requires an Environmental Implementation and Management Plan of every national department whose activities may impact on the physical environment.

Comparatively, evaluation of other allocative program categories such as those listed above (police, fire and national defence) may require instead the inclusion of such quantitative measures or statistics as number of reported cases and their direction of growth or change (see also Fisher 1988:304).

**Distributive expenditure programs** refer to programs that attempt to change the income distribution in society. These programs are usually carried out through government's taxing function, welfare programs and human investment programs. A progressive tax system that imposes a proportionately greater tax burden on the richer members of society than on the poor can be thought of as being a distributive program as it attempts to provide for a more equitable distribution of society's wealth. Welfare and Human investment programs also have as their goal the redistribution of society's wealth, but through different means.

Welfare and human investment programs can be considered more similar to each other than they are different. Perhaps the most significant difference between the two is that the expected outcomes of welfare programs are less well defined than those for human investment programs. Thus, welfare programs generally have as their objective the provision of basic needs to those members of society who are unable to 'adequately' sustain themselves. A common approach to evaluating the efficiency of welfare programs uses the measure defined as the welfare ratio – which is a family's total realized income (including welfare benefits received) relative to its level of need (based on family size, age and location) (Haveman & Margolis 1983: Chapter 9; Gramlich 1981: Chapter 7). When this ratio is found to be less than one, the family is determined to be in poverty for that year. When the ratio is between 1.0 and 1.25, the family is considered near poverty, and when the ratio is above 1.25, the family is considered non-poor. Simply stated, the object of this approach is to balance the complexity of the mathematical operations involved, simply stated, the object of this approach is to balance redistributive gains to program recipients against losses incurred by program contributors. The question to be answered is – "by how much does society gain in transferring income from contributing to recipient families?" (Gramlich & Wolkoff cited in Haveman & Margolis 1983:187).

**Human investment programs**, in comparison, also provide benefits directly to citizens and include programs for the provision of public education, health, and job training. What differentiates these programs from welfare programs is that their outcome is expected to benefit society (in the long-run) to a greater extent than welfare programs. Thus educational attainment and job skills can be defined as the appropriate benefits of such programs whilst costs would include the costs to society of financing the programs (see Gramlich 1981:160 and Fisher 1988:305).

**Regulatory programs** - Regulatory activities of the government can be simply thought of as government mandates placed on private sector enterprises concerning what to do and what not to do (Gramlich 1981: 201). From a cost-benefit framework of analysis these types of programs can be judged by weighting the costs - compliance costs of private producers, and usually also costs to consumers by way of higher costs and prices for the regulated goods - with the benefits accruing to society at large of improved products (safer products) or processes (eg. - cleaner environment).<sup>7</sup>



## TIME VALUE CONSIDERATIONS IN CBA

Generally, program and project cash flows that are one year or less in duration can be estimated using current prices. However, for cash flows of longer duration, the time value of money becomes a significant consideration given the realities of inflation and interest rates. The value of a dollar received tomorrow is worth less than a dollar received today and therefore (future) cash amounts must enter into the analysis at their present values in order to facilitate meaningful comparisons.

The standard way in which anticipated future cash amounts can be assigned a current value is by use of an interest factor or discount rate that compensates the investor for amongst other things time, inflation and risk. This discount rate, once determined, is a cardinal concept and a key factor in performing a competent benefit-cost analysis. The decision to accept or reject an investment or the decision to select the optimal investment amongst two or more alternative investments is especially sensitive with respect to the evaluation method applied and the magnitude of the discount rate used.

The internal rate of return (IRR) and net present value (NPV) criteria are the two most widely accepted approaches to using discounted cash flows in benefit-cost evaluations. IRR and NPV are calculated using the following formulas:

$$(1) \quad \text{NPV} = \sum_{t=0}^T \frac{B_t - C_t}{(1+r)^t} \quad (2) \quad 0 = \sum_{t=0}^T \frac{B_t - C_t}{(1+i)^t}$$

where:       $t$       = each individual year of the project  
               $T$       = number of years the project lasts  
               $B_t$      = total benefits in year  $t$  (or each year)  
               $C_t$      = total cost in year  $t$   
               $r$       = discount rate in NPV formula  
               $i$       = discount rate in IRR formula

As can be seen, these methods use essentially the same formula and differ only with respect to how that formula is used.

The NPV approach [eq. (1)] requires estimates for benefits, costs, and the discount rate. If the discount rate used results in a positive net benefit (i.e. the present value of all

benefits is greater than the present value of all costs), the project can be considered an acceptable option. In contrast, using the IRR method requires estimating benefits and costs only, and the discount rate is solved for (with equation 2) rather than estimated. The principle here is to compute that rate of discount (known as the internal rate of return - or  $i$  in equation 2.) that would at minimum equate the present value of all benefits to all costs. This is done by setting  $PV = 0$  and solving for  $i$ . By this criterion the project has positive net benefits and should be accepted if  $i > r$ , where the estimated  $r$  can be thought of as the opportunity cost of capital. Alternatively, when faced with two or more investments and scarce resources, projects can be arrayed according to the value of  $i$  where the optimal decision is to select the project(s) with the highest  $i$  value(s).

It is generally accepted and can easily be shown that the NPV method is the more consistent of the two investment decision criteria. While both methods need to be used cautiously and with particular attention being paid to potential pitfalls, the IRR method has been shown to be ineffective as a decision tool for a number of reasons including:

- The solution of the IRR formula can result in two or more discount rates. This mathematical contradiction is evident when costs occur at more than one point during the life of the investment. This is because solving for the unknown in the IRR formulation is equivalent to solving for the root or roots of a polynomial equation.<sup>8</sup> The following example given by Mishan (1976:187-8) illustrates this anomaly:

An investment stream of - 100, 420, - 400 has two different rates of return, 46% and 174%, that solve the IRR equation.

- For investment projects whose benefits and costs expire within the period of one year, the NPV method is acceptable because for investments of this duration, the net present value of benefits over costs is equal to the undiscounted net benefits. However,  $i$  in the IRR formula cannot be computed to give a meaningful measure (Gramlich 1981:93).

It is therefore advisable to use the NPV method for all cost-benefit discounting calculations and decisions.

## APPROPRIATE DISCOUNT RATE

**F**or public sector investments, before we can translate monetary benefits and costs into equivalent and comparable present value figures, the issue of the appropriate discount rate to be used – the unknown in the net present value (NPV) formula – must be resolved. As yet, in the academic discourse on this matter, there exists no firm consensus amongst the more prominent scholars. Some even reversing or modifying their positions as the subject continues to be studied and debated.<sup>9</sup> Essentially, the three competing perspectives on determining the discount rate for public investments are (Gramlich 1981:95):

- Gross before-tax rate of interest on private investment.
- Weighted average of the gross before-tax rate of interest on private investment, and the after-tax rate of return on private saving.
- Social optimum rate of discount.

### **Gross Before-tax Rate of Interest on Private Investment**

The rationale for using the gross before-tax rate of interest on private investment as the discount rate for public investments assumes an equivalence between the two types of investments (public and private) before taxes such that investing in one is an opportunity cost for not investing in the other. The underlying assumption is that because many governments exempt a substantial proportion of their bond and security issues from taxes, a rational comparison of returns for public and private investment can only be made on a pre-tax basis. However, this construction overlooks the fact that private and public investments can never be commensurate, as their corresponding discount rates must not just account for tax differences but must also be adjusted to account for risk. As a result of government regulation, investments above a particular level of risk are unavailable for public investment thus resulting in a lower required rate of return and discount rate for public investments (Prato 1998:266; and Bradford cited in Haveman & Margolis 1983: 130).

### **Weighted Average Rate of Return**

This approach to determining the discount rate to be used for valuing public investments is based on the premise that funds available for public investment can be estimated as the opportunity cost of funds that would otherwise have been used for private investment and/or private consumption. The opportunity cost of the former is estimated as the before-tax return on private investment and the opportunity cost of the latter is estimated as the after-tax return on consumer saving. The rationale here is that the weighted average of these two opportunity costs is the best estimate for the public investment discount rate.

Gramlich's argument against the use of this weighted average method is based primarily on the inclusion of the after-tax return on consumer saving. When calculated using 'real' data, this rate quite often turns out to be negative after adjusting for inflation and government regulation that puts a ceiling on the amount of interest payable to consumers through bank savings accounts.

This after-tax rate cannot therefore be taken as the rate investors require to invest their savings in public projects, but rather this rate reflects the constraints imposed by government on consumer savings.

## Social discount rate

It has been shown and it is generally accepted that the required rate of return on government investments (i.e. the economy's risk-free rate of return on investment) is closely approximated by the long-run real growth rate of the economy (Reilly 1985:10-19; Gramlich 1981:101-7).

This derivation of the appropriate discount rate for evaluating public investments is based on the premise that this is the optimal rate of discount that maximizes return (or equivalently output) where this maximum return occurs at the highest point on the production function. Gramlich shows that the slope of the tangent to the production function at this point is equal to the slope of the capital requirements curve which in turn equal to the growth rate of the economy.

## COST-BENEFIT ADJUSTMENTS

**F**or government programs it is usually not possible to compare all benefits to all costs as the cost-benefit method requires. In those cases where the benefits of program are not easily quantifiable, two alternatives to the cost-benefit analysis are cost effectiveness evaluations and monetarizing costs and benefits.

### Cost effectiveness

The cost effectiveness approach rests on the premise that where benefits are not easily quantified it is feasible to compare alternative programs with the same objectives based on costs alone. This method indirectly maximizes net benefit by directly minimizing costs.

“Benefit-cost analysis is really a framework for organizing thoughts, for listing pros and cons, and for placing a value on each consideration. In many situations there will be some considerations that cannot easily be enumerated or valued and where the benefit-cost analysis becomes somewhat more conjectural. Yet the sensible way to deal with such omitted considerations is not to abandon all efforts to measure all benefits and costs, but rather to (modify the cost-benefit analysis to accommodate varying circumstances) ... viewed in this light, even if benefit-cost analysis alone does not make any decisions, it can serve a valuable purpose in focusing decisions on the critical elements” (Gramlich 1981:5).

### Monetarizing costs and benefits

It is obviously not possible to assign a monetary value to each variable considered relevant to a cost-benefit calculation. Rather than attempting to convert all direct and indirect benefits and costs into monetary terms, Prato (1998:ch.12) suggests the

utilization of multiple criterion decision analysis (see also Gramlich 1981:5; Rossi & Freeman 1989:387). In short, this analytical approach accommodates the combining of monetary and non-monetary cost-benefit assessments into a single study by simply quantifying that which is quantifiable and listing and ranking those variables that are non-quantifiable in monetary terms. This should result in more accurate and meaningful impact measures than would be obtained by assigning arbitrary and subjective monetary values to such factors as aesthetics. Further, the temptation to exclude from the analysis one or more factors because they cannot be monetarized, would lead to underestimation of costs or overestimation of benefits.

## EFFICIENCY CONSIDERATIONS IN CBA

**T**he decision by government to take on a project or to provide a service, is motivated by efficiency concerns. That is, if inefficiency (in terms of price and/or quantity) exists in the market for the delivery of needed services to the public, government is obliged to intervene in the market by providing the service or product in question more affordably and efficiently than is currently the case.

### Pareto efficiency principle

Among the efficiency concepts used in working through a cost-benefit analysis are the Pareto efficiency standard and the Kaldor-Hicks criterion (Gramlich 1981:42). The Pareto standard defines efficiency as a state of affairs in which it is not possible to make at least one person better off without making someone else worse off (Fisher 1988:27; Gramlich 1981:42). The practicality of this concept is questionable as it is rare to encounter a government program that meets this standard (Gramlich 1981:42). Rather the usefulness of this theorem lies not in its stated requirement for bringing about or determining efficiency, but in its implicit recognition of possible externalities of programs that must be accounted for.

### Kaldor-Hicks efficiency principle

The Kaldor-Hicks principle basically extends the rationale of Pareto efficiency by defining as efficient the government program in which the gainers could compensate the losers and still be better off. Stokey and Zeckhauser re-phrase this principle in more pragmatic terms: "In any choice situation, select the (policy) alternative that produces the greatest net benefit." (cited in Gramlich 1981:43). Here the combined financial gains and losses of all stakeholders are summed together to derive the net benefit. This total is then compared to the total cost of the program or project. The option with the highest *benefit-to-cost ratio* or *net benefit* differential is to be selected (Gramlich 1981: 117).

Government programs that are concerned with distributive equity normally adjust the Kaldor-Hicks cost-benefit measures by using a simple weighted average technique that

assigns greater consideration or weight to gains and losses of low-income or disadvantaged groups. Gramlich correctly cautions however, that "... the distributional weighting of gains and losses is typically one of the most speculative aspects of any evaluation" (Gramlich 1981:120).

## EVALUATION METHODS IN THE SOUTH AFRICAN PUBLIC SERVICE

Section 196 of Act 108 of 1996 assigns to the Public Service Commission (PSC) the task of '*promoting effective and efficient public administration and a high standard of professional ethics in the public service*'. This is to be accomplished through the evaluation and oversight functions of the PSC as specified under sub-sections (4)(b) and (4)(c) which are:

- to investigate, monitor and evaluate the organization and administration, and the personnel practices, of the public service;
- to propose measures to ensure effective and efficient performance within the public sector.

Although the PSC is essentially the government's policy making body in the areas of public performance management, implementation of these performance management mandates is carried out by the Department of Public Service and Administration. A key initiative currently being carried out by the Department is the implementation of Performance Agreements. Heavy consultation (between managers and subordinates) is involved in effecting these agreements and there exists a fair amount of flexibility in defining performance measures. The scope of the agreements, however, are heavily weighted toward internally focused measures.

In addition to the mandate required of the PSC, the responsibility for performance evaluation in the South African public service is shared with the office of the Auditor General (AG). The AG's office fulfills its constitutional mandate to evaluate public sector performance through its accounting and management auditing activities. The work of the AG is therefore fundamentally centered in the discipline of public accounting and is focused on the efficient, competent and honest use of public funds (Annual Report of the Auditor General: 1997-8).

The observation is made here that the quantitative approach of the AG's office needs to be increasingly tempered with qualitative performance appraisal that is also externally focused. To this end, the Department of Education has positioned itself as a conspicuous example of the shifting importance being given to externally focused program evaluation in the S.A. Public Sector. Specifically, the review committee that studied the efficiency and effectiveness of "Curriculum 2005" effectively balanced the 1997 AG audit of their department with qualitative assessments of the social objectives and outcomes of one of the department's most significant programs.

## CONCLUDING REMARKS - A GLOBAL PERSPECTIVE

The private sector enterprise is normally concerned primarily with maximizing profits, however, in this era of social consciousness and corporate responsibility, private enterprises are increasingly being forced to consider the externalities of conducting business. Conventionally, at least up until very recently, private business compared or decided upon investments using capital budgeting techniques which applied essentially the same benefit-cost analysis used in evaluating public programs and projects. However, private sector CBA had been focused almost exclusively on monetary gains and losses and excluded externalities in the calculation. In recent decades, this focus of analysis has experienced a slow but steady paradigm shift brought on in many respects by the constraints put upon private businesses by the legal environment in which they operate and in which they are held responsible and accountable for their actions. Further, private corporations are increasingly adopting the philosophy of corporate responsibility not just for the sake of benevolence or legal sanction, but good business practice and economic survival dictate these largely public considerations.

It is increasingly clear that the evaluation considerations for both private and public investment are converging. However, regardless of the degree of conformity between these two types of evaluation, arguably there must always be a higher moral standard placed on public enterprise investments as the private enterprise will always possess an opportunistic self-interest epitomized in the profit motive whereas the public sector will always be responsible - almost paternalistically - for citizen welfare. Further, the scope of inclusion of benefits, costs and externalities will always be broader for public investments than for private enterprise investments.

An important caveat is that there can be no precise determination of net benefit for public programs and projects. Rather, it is only possible to arrive at conclusions or decisions based on rough estimation and subjective determinations given the nature of the problem of limiting the variables to be included in the analysis (for example - plant life and endangered species) and measuring them. However, despite the imprecise and subjective nature of cost-benefit analysis it still remains a worthwhile effort as it at some level substantiates the external implications of government activities when one considers the connectivity of relationships that exist in society in general as well as between society's members and the physical environment.

### NOTES

- 1 Public accounting adopted from private accounting such key changes in principles as the change from cash basis to accrual basis accounting. For an elementary exposition of this and other public accounting concepts see Meyer (1985:28).
- 2 The Pareto efficiency standard defines as efficient that program or project that makes at least one person better off whilst at the same time making no other person worse off (Fisher 1988: 26-7) (Gramlich 1981:42).
- 3 Note that consumers and taxpayers are not necessarily mutually exclusive groups - for example, many recipients of a public service are also taxpaying citizens.

- 4 The median voter theory holds that the outcome of a vote is that choice that lies in the middle of all available choices such that half the choices are below and half the choices above the outcome of the vote. (See Fisher 1988:53).
- 5 This conclusion is implied in Prato's analysis by limiting the discussion to producers and consumers.
- 6 'Society' may be defined differently for each program under study based on how wide-ranging the effects of the program are estimated to be. (For a thorough discussion of this point see Haveman and Margolis 1983:34).
- 7 A thorough discussion of evaluation of regulatory programs is given in Gramlich ch. 11.
- 8 For a quick and relatively easy explanation of this mathematical perplexity, see Chiang, A.C., *Fundamentals Methods of Mathematical Economics*, 3rd ed. 1984, McGraw Hill, p.17-53. See also Mishan (1976:183-195).
- 9 W. J. Baumol, for example, changed positions from endorsing the before-tax rate of return on private investment for discounting public investments to the weighted average method. (See further Gramlich 1981:96).

## BIBLIOGRAPHY

- Burbidge, M. Curriculum 2005: Few mourn it's passing. *The Star*. June 2<sup>nd</sup> 2000.
- Chaing, A.C. 1984. *Fundamental Methods of Mathematical Economics*. 3<sup>rd</sup> ed. New York, USA: McGraw-Hill Book Company.
- Fisher, R.C. 1988. *State and Local Public Finance*. Glenview, Illinois USA: Scott, Foresman and Company.
- Gramlich, E.M. 1981. *Government Cost Analysis of Government Programs*. New York, USA: Prentice-Hall Inc.
- Haveman, R.H. and Margolis, J. eds. 1983. *Public Expenditure and Policy Analysis*. 3<sup>rd</sup> ed. Boston, USA: Houghton Mifflin Company.
- Meyer, M.W. 1985. *Limits to Bureaucratic Growth*. Berlin, Germany: Walter de Gruyter Publishers.
- Mishan, E.J. 1976. *Cost-Benefit Analysis* (new and expanded edition) New York, USA: Praeger Publishers.
- Pearce, D.W. 1986. *Cost-Benefit Analysis*. 2<sup>nd</sup> ed. Basingstoke, MacMillan Education Ltd.
- Prato, T. 1998. *Natural Resource and Environmental Economics*. Iowa, USA: Iowa University Press.
- Rainey, H.G. 1991. *Understanding and Managing Public Organisations*. San Francisco, USA: Jossey-Bass Inc., Publishers.
- Reilly, F.K. 1985. *Investment Analysis and Portfolio Management*. 2<sup>nd</sup> ed. New York, USA: The Dryden Press
- Stiglitz, J.E. 1988. *Economics of the Public Sector*. 2<sup>nd</sup> ed. New York, USA: W.V. Norton & Company.
- Szanton, P. 1981. *Federal Reorganization - What Have We Learned?* Chatham, New Jersey USA: Chatham House Publishers, Inc.
- Report of The Review Committee on Curriculum 2005*. 31<sup>st</sup> May 2000. A South African Curriculum for the Twenty First Century. <http://education.pwv.gov.za>