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CRITERIA FOR EFFICIENCY AND EFFECTIVENESS IN PUBLIC MANAGEMENT

By

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> A person who believes in widespread government activities must at least be disappointed by the irrationality in governmental decision-making process.
> Gordon Tullock [3; 332]

Introduction

Seminars of the Asian Centre for Development Administration (ACDA) since 1974 have always touched upon certain aspects of performance criteria in public management. It seems that the assessment of the existence, relevance, consistency, and actual use of these criteria continues to be areas of interest and that the problems in developing meaningful tests of performance for the public sector remain largely unresolved.

This paper will attempt to discuss the criteria which may serve as guidelines to prospective in-house consultants in government in order to achieve effectiveness and efficiency in public management. It is readily apparent that a manager in the public sector, unlike his counterpart in the private sector, does not have an overriding criterion to test his performance against *profitability*. The survival and success of a private enterprise, while often reckoned in terms of a number of performance criteria, somehow boil down to one factor — its profitability. Serving as an internal measure of operating efficiency, profitability is also useful in evaluating an enterprise's performance relative

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to its competitors. In other words, it is evident that public management does not have the dual purpose criterion of efficiency that private enterprises conveniently find in profitability.

The next section of the paper is a discussion of Chester Barnard's distinction between efficiency and effectiveness in management and his rather unsuccessful attempt to apply the Pareto-optimal criterion to formal organizations.

Section 3 examines the difference between public and private management and underscores the requirement of a unanimity rule to achieve efficient supply of public goods in the Pareto optimality sense. However, cognizant of the limitations of achieving such as a rule, an approach to the choice of rules and even of institutions is presented which can then generate relatively more efficient outcomes in continued applications in the long pull.

Section 4 is an extension of the institutional choice approach to the case of quasi or impure public goods. Accordingly, balancing out the costs of different functional inefficiencies will determine the extent of the use of the market mechanism vis-a-vis political-government mechanism in the provision of these quasi-public goods.

A comparison of the efficiency of a public and private firm is done in section 5 in terms of the operation of Australia's two airlines.

Section 6 is a discussion of the possible performance measures that may be used in public management. And finally, section 7 asks the question of who determines the need for consultants and how such need is determined.

Distinction Between Effectiveness and Efficiency

The distinction between effectiveness and efficiency in the literature of management was first expounded by Chester Barnard forty years ago in an attempt to develop a theory of organization inclusive of social, political, national, and religious organizations. [1]. He contends that for a formal organization to survive, it must be "effective" in the sense of achieving organization purpose and "efficient" in the sense of satisfying individual motives.

Distinguishing between efficiency and effectiveness in personal behavior, Barnard says:

"When a specific desired end is attained we shall say that the action is 'effective,'

". . . when the unsought consequences are unimportant or trivial, the action is 'efficient.' [1; 19].

On cooperative systems, he has the following to say:

"When the purpose of a system of cooperation is attained we say that the cooperation was effective. [1; 43].

"Cooperative efficiency is the resultant of individual efficiencies. . . the efficiency of the cooperative action is the degree to which these (individual) motives are satisfied. [1; 44].

With regards the tests of effectiveness and efficiency, Barnard states:

"Effectiveness relates to the accomplishment of the cooperative purpose which is social and non-personal in character. Efficiency relates to the satisfaction of individual motives and is personal in character, the test of effectiveness is the accomplishment of a common purpose or purposes, effectiveness can be measured. The test of efficiency is the eliciting of sufficient individual wills to cooperate. [1; 60].

The last statement implies that efficiency, as he defines it, is rather difficult to measure.[1]

Barnard's preoccupation with efficiency in terms of individual and group satisfaction may be construed as his attempt to translate to non-profit organizations a proposition in classical economics which equates efficiency to personal satisfaction or utility. It may be recalled that the Theorem of Maximum Satisfaction in economics states that assuming competition in all markets and taking the distribution of income as a datum, maximum satisfaction of consumers, maximum profits to the firms, maximum returns to the owners of factors of production and maximum output in the use of society's resources are all simultaneously attained in equilibrium.

[1] Elsewhere in his book, Barnard says ". . .the only measure of the efficiency of a cooperative system is its capacity to survive". [1; 44]. This is not a new concept in economics. Survivorship as a measure of economic efficiency of different sized firms was first stated by John Stuart Mill [5; 134] and later developed by Stigler. [11].

Barnard was familiar with some of the works of Pareto [1, 51n]. I submit that he was searching, rather unsuccessfully for the equivalent of the Pareto Optimality Rule in private exchange to apply to co-operative systems involved in the provision of collective goods and services. [1; 244n].

Thus he states:

> "If five men are required and the fifth finds no satisfaction in cooperating, his contribution would be inefficient. He would withhold or withdraw his services, so that cooperation would be destroyed. [1; 57].

Barnard is concerned with voluntary exchange situations, necessarily involving a small number of participants,[2] which can achieve a "balancing of burdens by satisfaction" [1; 57]. In fact, his definition of a formal organization as a "system of consciously coordinated activities or forces of two or more persons" [1; 73] implies the unanimous agreement in the attainment of a purpose.

Barnard's inability to translate Pareto Optimality conditions to cooperative systems is perhaps reflective of the neglect, by American economists of his period, of the contributions of continental economists, particularly Wicksell who derived the counterpart of the Pareto Optimality Rule in the Unanimity Rule for public or political choices.

In the end, Barnard admits:

> "Crude and unsatisfactory as in this theory of efficiency when stated in terms of ordinary economic relationship, . . .it is at least suggestive of the substance of the idea. [1; 255]

Public Versus Private Management

To understand the intricacies of the job of public management one has to know the nature of public goals, the nature of the decision

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[2] The problem of free riders in public goods supply will be considered in the next section.

[3] Public Management is an integral part of Political Economy or the science of improving social institutions [3; 325]. It also finds support from Welfare Ec

making process in the public sector, and the nature of public goods. [4; 4 & 5].

Firstly, political government goals are group goals which are often highly complex, subject to rapid changes, and are more difficult to measure than the private enterprise goal of maximizing individual profits or household goals of maximizing consumption satisfaction. At the level of society, only one goal — maximum welfare — may be pursued but then the problems entailed in the measurement of welfare are considerable.

Secondly, decision making in the public sector is a group process involving interactions, pressures, and bargains among different groups. The specification and quantification of ends, the determination of the means to these ends, the identification of the constraints attendant to means, and the eventual matching of the ends and means are all undertaken through collective action involving interaction, pressures, and bargains.

Thirdly, the nature of the goods as supplied by political government institutions is such that a unit supplied is by definition simultaneously available for the consumption of all members of the relevant group. As a public good, in other words, the consumption of a unit by one person does not reduce or remove the possibility of consumption by another person [2; 33]. The usual example given for a pure public or collective good is national defense. It is available for the consumption by all and from which none can be excluded. It is indivisible. In contrast, the consumption of goods supplied through market institutions, or private goods, is limited to one person at one time and the owner of the good can exclude others from its benefits.

Let us now examine more closely the aspect of collective decision-making in relation to the efficient supply of public goods. In a large-number political setting, the only institution or rule that can define the manner of arriving at group or collective outcomes in terms of the efficiency criteria of orthodox economics is the rule of

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nomics or the economics of potential government action which is based on an assessment of the failure of the price mechanism. Nevertheless, while one may agree on the inefficacy of the market in certain situations, one may not agree on the form of government action taken (i.e., public management) such as the public production of public goods [2; 186]. The private sector can be made to produce those public goods that possess external economics or spillover effects in consumption (such as educational services) but with government financing. [2; 71-72].

unanimity. Under voluntary exchange, full and complete agreement of the parties to an act is the only way to ensure that each party will be satisfied with the outcome of the act. As noted by Wicksell:

> ". . .outcome or results of individuals' choices for public goods in discrete instances can only be classified as efficient or optimal by some external observer if group decisions are made under some effectively — operating rule of unanimity. For discrete allocations, political choice institutions embodying decision by unanimity became the analogue to market-choice institutions that are described as perfectly competitive." [2; 6].

The fact that we are dealing with a public good, which does not preclude non-joiners from consuming the good, makes the adoption of a unanimity rule imperative for optimality. Put differently, to secure or enforce an agreement voluntarily in a large-number setting is rather impossible, all the more so when dealing with a public good. This is due to what is known as the free rider problem. Thus, individuals find it rational to act independently, despite the fact that the outcome of individual and independent action is not good for each and every person in the group. For the individual, optimal results can be attained by allowing others to contribute to the provision of the public good in order for him to secure the benefits without contributing towards the costs. [2; 87]. The only way to eliminate the free rider motivation is to impose that group decisions on public goods supply be made unanimously.

Under a unanimity rule, an individual is made fully aware that his own choice among alternatives affect the outcome for others in the group. [2; 92]. Thus, the impossibility of reaching a mutually satisfactory position in voluntary exchange involving large numbers of participants can be remedied by the unanimity rule:

> "Unless all members of the group agree to make a proposed change, some member or members must expect to be made worse off by the change; the proposal is disqualified by the Pareto-optimality criterion. Applied to positions, and not to proposals (a necessary distinction), if there is no change upon which unanimous agreement can be attained, then the initial or *status quo* position qualifies as Pareto optimal. [2; 156].

But then one finds the theoretical idealization represented by Wicksell's unanimity rule for making group choices far removed from real-world experience to serve as a norm for policy action.

It ignores the costs of negotiating agreements in the large-number case. The costs of making collective decisions may be substantial so as to result in some efficiency in exchange being traded off for more efficient decision-making. In other words, departure from unanimity will involve some cost in efficiency. However, simple efficiency will be replaced by relative efficiency in a world of second bests which recognizes the costs of collective decision-making. Moreover, collective decision-making on the quantity and mix of public good as well as on the means of sharing the costs is a continuous process that extends over a considerable period of time. Thus, since a whole series of choices will be made, the adoption of a simple majority voting rule proves more efficient than alternative rules, in a benefit-cost efficiency sense. [2; 151 & 158]. Also, a variable set of decision rules may entail substantial negotiation costs right at the outset of the determination process.

Buchanan extends this approach further to apply to the choice of fiscal institutions. While simultaneous consideration of tax sharing schemes and public expenditures is a fundamental requirement for efficiency, a community, even in a majority voting rule situation may still adopt tax-sharing arrangements independently of budgetary or spending legislations and this may be an efficient way of reducing decision-making costs. In other words, supplementary fiscal rules may reduce the costs of decisions further. [2; 158]. These rules may be partial substitutes to the more inclusive political-decision rules but they tend to generate more efficient outcome over the whole sequence of choice situations and are therefore adopted. [2; 161].

At this point we have come across two types of efficiency: 1) efficiency in exchange and 2) efficiency in decision-making. Perhaps it will be fruitful to consider other types of efficiencies in the performance of the functions of an organization.

Balancing Functional Inefficiencies in Different Categories of Public Goods

There are three functions that must be performed jointly or separately by an organization, public or private [2; 178]. These are the:

1. Allocation function — the determination of how much to produce;

2. Financing function — the determination of how to cover the costs; and

3. Distribution function — the determination of how to distribute the benefits.

It may be recalled that orthodox microeconomics theory suggests that the price or market mechanism can efficiently perform all these functions simultaneously for a private good. In other words, for private goods there is a built-in mechanism that works to eliminate inefficiencies in the performance of these functions. This is not so for a public good. The distribution problem for instance does not exist for a pure public good. In fact one way of defining a pure public good is to say that distribution costs are zero.[4] [2; 182]. However, financing a public good through tax-sharing schemes will bring about excess-burden inefficiencies and the use of some non-unanimity rule for making group decisions will yield allocational inefficiencies. Thus distributional inefficiencies work in the opposite direction of financing and allocational inefficiencies in the broad range of public goods.

Goods, however, cannot just be classified into two polar categories — purely private and purely public. There is a number of goods considered impure — neither wholly private nor fully public. Buchanan [2; 174-177] made use of two independent characteristics in classifying such goods: degree of indivisibility and the size of the interacting group. Aside from the two polar cases of pure private goods (fully divisible and involving one or at most a few persons) and pure public goods (fully indivisible and affecting a large number of persons), he delineated three other categories of quasi-public goods:

a) *Partially divisible goods with interactions limited to groups of critical small size*

Goods and services that involve the small-number externalities of Coase [7] such as fire extinguishers fall under this category. Given a fixed supply, an increase in the consumption by one person will reduce the amount available to other persons in the group but not precisely by one unit or by zero.

b) *Partially divisible goods with interactions extending over groups of critically large size*

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[4] It is rather amusing to see common reference made to delivery systems of public services. These services must not qualify as pure public goods, otherwise the problem of delivery should not exist.

The large-number externalities of Pigou [6] such as pollution and innoculation against communicable diseases fall under this category. In contrast to the other category, the publicness or indivisibility element extends to a larger group.

c) *Fully indivisible goods with interaction limited to groups of critical small size*

The good is available to members of small-sized groups equally, but not to those outside the common-sharing group. Exclusive private clubs belong to this category.

To facilitate the distributional task for goods and services falling under any one of these three categories, direct user pricing will have to be employed. However, this introduces distributional inefficiencies. But as a result of the use of prices, the two other functions of allocation and financing will also be performed thus leading to a reduction in the allocational and financing inefficiencies inherent in public goods. However, exclusive reliance on direct user pricing may not eliminate these inefficiencies precisely because of their publicness or spillover effects. This is particularly so for goods and services in the second category (b), which means that direct pricing has to be supplemented by tax financing. Common examples of tax-subsidized goods and services are innoculations against communicable diseases, public park facilities, and public college education. For quasi-public goods, therefore, a balancing of distributional inefficiencies on one hand, allocational and financing inefficiencies on the other, will result in a combination of direct user pricing and tax pricing.[5]

Furthermore, for goods and services falling under categories (a) and (c), the extent of tax pricing will be correspondingly small. Moreover, as a general guideline, if for any reason a government organization is used in the provision of private goods and those classified under small-number externality and club-type goods and services, then efficiency criteria would dictate a structure that would closely parallel the workings of a market. [2; 183].

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[5] The downward bias in government enterprise prices is said to be due to the attempt of government officials to gain political support especially for certain political sensitive goods like rice in the Philippines. Thus, the lower price is intended to benefit the customer as a consumer and a taxpayer. Moreover, one can expect price to be generally higher to non-voters than to voters as in the case of sugar in the Philippines. [9; 114].

Comparative Inefficiency in the Operation of Public Enterprises

Let us now look more closely into the crucial difference between public and private ownership which accounts for the difference in behaviour and performance of government and private enterprises. A. Alchian is often cited to have underscored two factors accounting for the differences namely: (1) inability to exchange ownership claims and (2) lack of specialization in ownership. [8; 110-111] and [9; 149-150].

First of all, a taxpayer, unlike a private property owner, cannot sell property rights to his share of public ownership inasmuch as there is no organized capital market for shares in government firms.

Secondly, public ownership is not voluntary. It is held by the constituents of a political jurisdiction. It is therefore useless to attempt any course of action to capture the benefits of sole ownership. A public manager has very little incentive to use resources as if they were his own; much less than the managers in large private corporations operating under a situation where ownership and control are separate.

These factors are said to inhibit the inexpensive detection and rectification of poor management in the case of public ownership. [9; 150]. A public owner, unlike a private one, has little interest in looking into the profitability of a public firm. As a matter of fact, public owners do not receive financial statements of public firms. Hence a public owner will have to incur substantial costs in gathering information to establish a deteriorating financial condition of a public firm and detect incompetent management. There is therefore very little motivation for a single owner to act directly or indirectly in pushing a public firm to be more efficient.

It may be argued however that newspapers and other institutions bring out information on erring and incompetent public officials and that elections are supposed to weed out poor public managers. We know, on the other hand, that voting merely results in a change of political parties running government. Besides, there is usually a set of issues offered by political parties to the voters, with efficient management of public firms being only one of them. It is very likely, therefore, that other issues can easily override the single goal of efficiency in the allocation of resources [9; 151n].

Since the costs and/or rewards of a decision are less fully borne by

the decision maker in the public sector, we would then expect a public firm to be less efficient than a similar private firm. [9; 151].

To test this hypothesis, Davis considered Australia's two airline. Australia has a unique domestic airline travel industry in that there are only two airlines allowed to operate. One is privately-owned, Ansett Australian National Airways or Ansett ANA, and the other is the government airline, Trans Australia Airlines or TAA. These two airlines offer similar services; same routes, similar planes with similar capacities. The government has, moreover, created rules to assure that the two firms enjoy comparable cost structure. It has not allowed entry of any other airline. It controls time schedules and has set equal prices. [9; 161]. In other words, there is no significant difference between the two firms except as far as ownership is concerned.[6] The matter to ascertain then is whether there are still differences in their performance. More specifically, it is of interest to find out whether or not the private airline, Ansett ANA, is more efficient than the government-owned TAA.

Davis used three measures of productivity to test the operating or technical efficiency of the two airlines. These are:

1. The ratio of the total tons of freight and mails carried to the total number of employees;

2. The ratio of the number of paying or revenue passengers carried to the number of employees; and

3. The ratio of total revenue earned to the number of employees.

In all three, Ansett ANA registered a higher ratio than that computed for TAA. In other words, Ansett ANA carried more passengers and mail, had more paying passengers, and earned more per employee than TAA. The lower productivity of TAA cannot be attributed to lower pay because Australia has a wage equalization scheme within and between industries, and between public and private sectors.

The evidence on Australia's two airlines suggests that a private company is more efficient than the public enterprise. For the purpose of

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[6] Ansett ANA has a cargo operation, the effect of which Davis tried to net out whenever possible.

the topic under consideration, this finding implies that standards of efficiency lower than those found in the private sector should be set for public enterprises.

Performance Measures in Public Management

Our discussion thus far has indicated that it is not possible to have one measure in judging both the technical or operating efficiency, and the economic or satisfaction maximizing efficiency of public firms. It is also evident that the measurement of the contribution of a public enterprise's set of activities towards the welfare criterion of efficiency is too formidable a task to undertake. For this reason it may be better to devote more attention to a public firm's internal operating efficiency performance. But then, since the bulk of goods supplied by the government is private and quasi-public (especially in developing countries), it therefore follows that internal efficiency measures used in the private sector should be applicable. However, based on our discussion in the previous section, standards of performance should be scaled down to allow for goals other than efficiency that public firms are supposed to perform (for instance, income redistribution).

It should be pointed out that standards of performance of public firms could also be based on the performance of a similar public firm in another country (e.g. a state university, a local water system, etc.).[7]

At this point let us distinguish between two types of evaluation in public management — ad hoc and continuing. The assessment of organizational or functional achievements is ad hoc in character. Since it is conducted very infrequently such as in the process of formulating a government reorganizational plan, this type of evaluation is best carried out through management audits performed by external agencies.[8]

The need for continuing evaluation of performance for purposes of defining areas of improvement can be found in the implementa-

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[7] This point was underscored by a number of participants in the seminar-workshop.

[8] Internal assessment such as those contained in annual reports of government agencies are usually not adequate to establish their organizational effectiveness or efficiency.

tion of government programs. Issues that affect the kind, level and quality of service provided to the people are the problem areas of public programs which require periodic analysis and evaluation [4; 145]. In any event, program objectives are more amenable to quantification than organizational or functional goals since they can be made specific in coverage and in time horizon. Thus the performance of the program can be measured. Moreover, the results of such program analysis and evaluation, usually arrived at through the use of techniques of cost-effectiveness analysis, benefit-cost analysis or marginal analysis, form the bases for the preparation of budget proposals for program operation.

Various program measures that can be utilized in public program analysis and evaluation are the following:

a. *Effectiveness Measure* — A statistic which indicates degree of attainment of a program's objective. It is usually stated in percentage turns such as percent reduction in the incidence of a disease.

b. *Work-load Measure* — A statistic indicating the magnitude of coverage or effort of a program and the volume of work to be done. Some examples are: number of classes to be offered; number of projects to be started; number of applications to be processed.

c. *Output Measure* — A statistic which indicates the volume of goods and services produced by a program such as number of graduates, number of accidents prevented, and revenue generated.

d. *Input Measure* — A measure of resources employed such as a program's cost, classroom space and manhours required.

e. *Performance Measure* — A measure which relates work-load or output to input and often used in measuring the operating efficiency of the program (the processor). This is usually formulated in terms of a ratio of an output to an input measure. For example: revenues earned per employee; cost per patient per day. [4; 152].

We have already seen how some of these measures have been applied in public management. It is readily evident that numerous variables

can be tapped for these measures depending upon the nature of the program and ingenuity of the program formulators and evaluators. It also goes without saying that these public program evaluators can well be in-house government consultants.

Determination of the Need for Consultants

Let us now discuss, as a final section to this paper, some guidelines for the effective use of consultants. The motivation in going into this point of view is to emphasize the role of public managers in identifying management problems for consultants to tackle, and in carrying out the consultant's recommended course of action. One cannot establish the justification of the existence of in-house government consultants unless public managers themselves recognize that there are problems to be remedied.

Often times outside agencies identify the apparent problems of public agencies, perhaps in line with justifying technical assistance for loans or funding requests. While change decided from above is said to move faster, nevertheless it is the acceptance of the implementors that determines the successful adoption of the change. Hence, it is decidedly better if the public program manager himself determines the need for a consultant. The following are pointers given by Shay [10] on when a consultant can be helpful:

- When your company urgently needs more "know-how" in some area but cannot justify a permanent staff of specialists for such work, the consultant can conduct studies in depth and provide new approaches.

- When management must get a big job done quickly, a consultant can provide qualified personnel who will devote full time, uninterrupted, to the development and completion of this urgent work.

- When your company is heading into major growth or diversification, a consultant can stimulate and guide management thinking through the many possibilities that should be considered.

- When your company is literally fighting for survival, the consultant can save critical weeks and even months in helping identify the best opportunities for rebuilding competitive position or improving profit ability.

On the other hand some of the *don'ts* he cited in engaging a management consultant are:

- *Don't* engage one to conduct a study to support someone's point of view
- *Don't* use a consultant as a scapegoat if certain unpopular decisions have to be made or unpleasant changes introduced
- *Don't* engage one just to shake things up even if he does not achieve anything.
- *Don't* use one just to project the company's image.

In line with the above discussion and reflective of my own bias, I wish to underscore the need for continuing management education of both the public managers and their consultants.

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