Management Science

Publication details, including instructions for authors and subscription information:
http://pubsonline.informs.org

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To cite this article:
Yair Aharoni, (1981) Note—Performance Evaluation of State-Owned Enterprises: A Process Perspective. Management Science 27(11):1340-1347. https://doi.org/10.1287/mnsc.27.11.1340

Note*

MANAGEMENT SCIENCE
Vol. 27, No. 11, November 1981
Printed in U.S.A.

PERFORMANCE EVALUATION OF STATE-OWNED ENTERPRISES: A PROCESS PERSPECTIVE†

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State-Owned Enterprises (SOEs) have become important instruments of social and economic policy in industrialized mixed economies and in developing countries. The use of SOEs as instruments of public policy and the resulting clashes between these enterprises and private firms on the one hand and government and other controllers on the other, are causing concern. Public committees in different countries as well as international organizations have been searching for positive theory for guidance in handling the multitude of problems related to these enterprises. Theoretical models have made important contributions to the formalization of certain problems and the classification of the information needed to solve them. Unfortunately, these theoretical models have had little relevance for the solution of important real problems.

Much of the research on SOEs is concerned with how these enterprises *should* behave, and what should be the product of their operations. Almost no research has been done on why SOEs function as they do. The paucity of knowledge about the operation of SOEs stems both from insufficient research effort, and from the concern of researchers with formal structures and products of these organizations and not with management behavior or with decision processes.

The purpose of this paper is to call for research beyond the confines of traditional economics, using the tools of management science to obtain insights into the difficult but salient problems of SOEs.

(STATE-OWNED ENTERPRISES; PERFORMANCE EVALUATION; SOCIAL CONTROL)

1. Introduction

The share of mixed economies in both developed and developing countries controlled by state-owned enterprises (SOEs) has been on the rise since the thirties and has been accelerating since the end of World War II. In the early 1960s, it appeared that the share of SOEs is declining, at least in Europe. After the energy crisis, however, more enterprises were added to the state-owned list. Today, SOEs account for half or more of total government investment, and in 1978 the international borrowings alone of public sector enterprises amounted to over 30 billion dollars, equal to the total foreign borrowings by central government in that year (*The Economist*, December 30, 1978, p. 41). As international exporters and investors, state-owned enterprises are helping to shape the emerging structure of trade and payments relations in the 1980's. Their presence outside their traditional domain of public utilities and fiscal monopolies is being felt especially in natural resource-based and high technology industries with high barriers to entry, in which private multinational firms have heretofore taken the

* All Notes are refereed.

† Accepted by Arie Y. Lewin; received September 21, 1979. This Note has been with the author 7 months for 2 revisions.

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0025-1909/81/2711/1340$01.25

lead. They are moving into a dominating position in the natural resources field, controlling over 70% of the world oil production, two thirds of non OECD copper output, one third of iron ore and bauxite, etc. As a consequence of government attempts to save declining industries SOEs have begun to increase their importance in senescent industries such as textiles, shipbuilding, steel and auto manufacturing[16].

The reasons for establishing public enterprises are varied, ranging from political ideology to the political necessity of saving jobs. Some reasons are peculiar to a certain country. Still all publicly owned enterprises appear to encounter certain common problems. SOEs must meet two apparently contradictory objectives. Being publicly owned, they are expected to pursue various activities in the public interest and at the same time achieve economic goals and generate cash flows in excess of their cash outflows. They have to reconcile business requirements of financial flexibility and prompt reaction to a changing environment with the need to assure public accountability and consistency with social goals, which in many cases, are not prescribed at all. They are also accused of being unfair competitors to private firms, both within the national economy and in the international arena. Indeed, while the State is expected to be an objective and neutral arbiter, the very ownership of enterprises implies that it has partners, competitors and adversaries.

The use of SOEs as instruments of public policy and the resulting clashes between these enterprises and private firms on the one hand and government and other controllers on the other, are causing concern. Public committees in different countries as well as international organizations have been searching for positive theory for guidance in handling the multitude of problems related to these enterprises. Theoretical models have made important contributions to the formalization of certain problems and the classification of the information needed to solve them. Unfortunately, these theoretical models have had little relevance for the solution of important real problems.

Much of the research on SOEs is concerned with how these enterprises *should* behave, and what should be the product of their operations. Almost no research has been done on why SOEs function as they do.[1] The paucity of knowledge about the operation of SOEs stems both from insufficient research effort, and from the concern of researchers with formal structures and products of these organizations and not with management behavior or with decision processes.

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2. Multiplicity of Goals and of Principals

Some of the more difficult problems involve the multiplicity of goals and understanding the goal formation process in SOEs. Objectives specify resource utilization and the desired output of an organization at some future time. If objectives are clearly stated, agreed upon and are quantified, it is possible to evaluate the effectiveness of the enterprise. Normative models for evaluating performance of SOEs have served to define the problem of measuring effectiveness in terms of the required information [15], [22], [26]. In the case of SOEs the problems encountered in implementing proposed normative solutions to goal formulation and performance evaluation are

[1] For some exceptions see [1], [3], [11], [18].

complicated not only by problems common to all organizations: uncertainty, high costs of information, (or its unavailability at any price) and difficulties in allocating limited time of executives. In addition to these well-known problems, "the state" is not a person, not even a single organization. The various elected and appointed public officials often perceive the public interest differently. Thus the SOE finds itself contending with conflicting instructions without a clear set of tradeoffs. This problem is further aggravated in countries governed by political coalitions dependent on ambiguity for its survival. Research on SOEs has to consider the problems of multiple goals together with that of multiple principals who attempt to prescribe goals. Indeed devising policies for guiding SOEs and exercising social control over them represent extraordinary difficult problems in an environment suffused with political uncertainty and where rigorous normative criteria become impossible to apply.

Managerial or behavioral theories as developed by Baumol [5], Simon [23], [24], Cyert and March [9], Marris [17], or Williamson [30] provide frameworks for analyzing the firm in terms of multiple goals, decision making processes, relation to the environment etc. In these theories, however, social structures are taken as given. Managers of SOEs, when faced with conflicting direction, become part of the political conflict and bargaining and power relations become important variables. In such a situation the organization resorts to quasi-resolution of conflicts, broad rather than specific definition of problems, or uses logrolling. Open confrontation is avoided although such a confrontation may be needed to solve the conflict and evolve exact guidelines for the enterprise. As a result, managers of SOEs often resort to cooperative strategies for securing social and political support[2].

In a competitive market system, firms are assumed to be dependent only on the market. The only way they can react to the environment is through internal efficiency and the production of useful goods and services to consumers. SOEs clearly do not operate in a neoclassical competitive world. Instead, they are usually large firms in a dominant sector of the economy. Management of these firms have discretion in the choice of strategies, product lines, organizational forms and policies. However, variables such as choice of the domain of activities, technology or physical location are often dictated by government.

Fama [10], following Jensen and Meckling [14], views the firm as a "set of contracts" among factors of production, with each factor motivated by its own self interest. In Fama's formulation, separate markets exist for residual risk bearing, for managers and for directors. The discipline imposed by a labor market for managers separate from the one for residual risk bearing, may be sufficient to allow performance evaluation even if ownership is separate from control. Given a competitive labor market for managers, a firm will lose managers if its system is not sensitive to performance and the best are the first to leave.

The construction of an incentive contract to link managers' reward to the achievement of known objectives can theoretically be dealt with in terms of the principal-agent theory. Bergson [6] proposes such a solution. The theory implicitly assumes that the principal is well-defined and his objectives are clear and well articulated. However, the "agency costs" cannot be conceptually defined in SOEs because the principal is not identifiable. Thus, a contract linking managers' rewards to the achievement of known objectives is unrealistic. SOEs are not usually evaluated by the capital markets. Most SOEs' shares are not traded in the market and their managers often are selected by criteria different from those for selecting private enterprise managers. The measurement of managerial performance in SOEs is much more difficult. As long as the labor market for managers does not operate efficiently, ambitious SOE managers may be able to achieve more discretion than private sector managers. Managers with low tolerance for ambiguity prefer jobs that are highly formulated [8]. Less ambitious managers, faced with conflicting goals and restrictions, may simply choose to defer to governmental constraints. In extreme cases, managers may develop what Phatac [20] called the "don't rock the boat syndrome", avoiding changes that may alienate any powerful group. Thus redundant workers are not dismissed, erring staff are not disciplined, obsolete plants continue to operate and necessary organizational changes are not made.

3. Separating Social, Political and Economic Goals

Governments in some countries have attempted to solve such problems by separating economic from social goals, by compensating the enterprise for the economic losses incurred in the pursuit of government mandated social objectives. The NORA Committee in France [12] recommended that government should give its SOEs more autonomy on matters of tactics and operations and provide them better direction on select strategic issues. It further recommended that French SOEs should be run as commercial enterprises and be financially compensated for any social burdens that may be placed on them by government. In Britain several white papers and reports stressed the need for allowing the nationalized industries to pursue basic economic objectives. In addition investment criteria and financial objectives were imposed as principal devices of economic control of nationalized industries [19, 27, 28, 29]. In Israel a public committee which proposed the state-owned corporation law stressed that these corporations should be autonomous, managed by their managers and overseen by a board of directors who serve as trustees of the corporation and not as representatives of the government [13]. The proposal also recognized the need to set goals for SOEs congruent with the national interest.

In Sweden the Riksdäg (Swedish parliament) established a single state holding company, the Statsföretag, which would be responsible for most state-owned companies [25]. Statsföretag was set up to emphasize the distinction between general economic policies pursued by government departments and the responsibility of the state in its position as owner of the state joint stock companies. Similar ideas were suggested in Canada [21].

The concept of separating economic goals from social and political goals has several advantages. Costs of social policies are properly recorded, such policies become available for public scrutiny, the national interest is determined through the public policy process and the management of SOEs have knowledge of the criteria used to judge their stewardship. In actual practice, the dividing line between social and economic goals is not easy to draw, and it is extremely difficult to calculate social costs. When exogenous economic conditions change, the SOE finds that it must renegotiate its agreement with the government. Further, managerial behavior may be influenced by the perception that, in the final analysis, the firm will not be allowed to default. Moreover, when government is composed of an uneasy coalition of disparate elements it is likely to avoid any explicit direction of SOEs and resort to informal influence attempts.

It is clear that the research needs to focus on the relationship between management, directors, government officials and the legislative body. Such research should attempt to answer two broad questions: 1) what are the variables explaining differences in behavior among SOEs?, 2) what adaptations in institutional arrangements, decision rules, organization design and other parameters can improve the performance of these enterprises?

4. Research on Social Control

Organizations, whose goals cannot be connected operationally with actions, often judge decisions against subgoals that can be so connected. When a problem arises, organizations tend to search for satisfactory solution to the problem as they perceive it. Under these conditions, well articulated in the writings of Simon [23], [24] and others, a theory that purports to describe the real world must be able to model the internal processes of the organization. Further, responses to environmental events and pressures depend on the specific decision process that the firm employs. The decision process, in turn, is stipulated to be, at least partially, a function of institutional and legal arrangements that prescribe the roles of the various participants. Therefore research on processes seems more promising than concentrating on the product of the decisions and the ideal measure of performance. The problems perceived by decision makers, the alternatives they weigh, and the consequences they foresee, all depend to a large degree on the social system within which they operate, and on the definition of their role and are not defined once and for all. As Stafford Beer [4] has stated, normal human behavior consists of what he terms "ubiquitous feedback" or continual referral to problems that led to these results. This produces a continuing series of checks that often lead to a redefinition of the problem.

To consider the decision maker as sitting in an ivory tower, devoting all his time, energy and thought to a deliberate, orderly process of planning and search is a very misleading notion. People in organizations act continuously, making many choices under pressure of time, and unable to respond to every stimulus. The forces leading somebody in the organization to focus attention on certain problems are, therefore, of crucial importance. To the extent that these hypotheses are correct, the outcome of any decision process can be partially controlled by a different design of the roles of different actors. In the specific case of SOEs, changes in the design of the social control system are a possible avenue for changing managerial behavior.

The following are some illustrative ideas involving re-design of the social control system. Managers of SOEs usually attempt to maintain discretionary control over funds generated by operations within the enterprise as a means for maintaining autonomy. Therefore they will tend to accumulate such funds and minimize dividend payout. To allow the government to overrule the board of directors and increase the dividends paid by a wholly owned SOE; the statutes in most countries would have to be changed.

Changes in institutional arrangements can also be effective in influencing the decision making process itself by specifying the participants in the process. Thus, the decisions of state-owned enterprise might differ depending on whether the directors of the enterprise are civil servants of independently elected businessmen. Prescription of what information must be generated by the enterprise before specific decisions can be made can also influence the outcome of decisions. For example, the enterprise might be required to present detailed budgets as a prerequisite for approval of financial or operating plans.

The institution of a third party comprehensive audit as a necessary part of a social control system may clarify possible tradeoffs among objectives. Comprehensive management audits are not restricted to financial transactions. They involve an extended examination and appraisal of the propriety of objectives and of the methods used; the effectiveness of the enterprise in stating objectives and in attaining them, and finally, the efficiency of performance, as measured by the benefits received and the resources utilized. Such audits have been tried by different state auditing organs such as the General Accounting Office in the United States, the Cour des Comptes in France, the Auditor General in Canada and the State Controller in Israel.

Compulsory comprehensive audit of a state-owned enterprise cannot create agreed objectives, but they aid in determining the propriety of objectives actually pursued, recognizing that the perspective of a third party auditor is not necessarily the right one. The audit, however, can result in public disclosure and debate of the actual goals of the enterprise. Independent auditors are also important in making other agents of the state accountable for goals they attempt to pursue.

To be sure, institutionalizing comprehensive audits has some disadvantages. It is costly and diverts managers attention from managing the enterprise. In addition, SOEs may be reluctant to reveal commercial information, since full disclosure places them at a comparative disadvantage *vis* a *vis* their private counterparts. At the same time, the potential of an audit creates an audit anticipation effect [7] possibly forestalling the pursuit of objectives that management (or the government) perceive to be improper. To be sure, in a parliamentary regime, comprehensive audits may be less effective since the government in power also controls the parliament. In general, comprehensive auditing will be less effective where democratic institutions are less powerful and less diffused, and where checks and balances in the political systems are not adhered to.

Allowing the registration and trading of SOE shares in a capital market, by distributing shares to taxpayers presents another means for achieving social control. If shares of SOEs were to be traded, individuals could optimize the allocation of their risk. SOE risks would be shared by all taxpayers, who maintain a portfolio of securities according to their risk preferences. In addition, capital market trading may increase both accountability and efficiency and reduce the tendency to use SOEs for illegitimate political gains. On the other hand, there might be an undesirable distribution effect (e.g. foreign entrepreneurs may buy the majority of the shares, or the rich might be able to gain control of the firm). Some insights into the problem could be gained from a comparative research of SOE behavior in countries where shares of these enterprises are actively traded, as in the Federal Republic of Germany, with countries where such trading is not permitted. The management of relations between SOEs and government is only one side of the problem. Another is the relationships between state-owned and investor-owned firms. In a mixed economy, the taxpayer expects vigilance on the use of public funds. At the same time, SOEs compete with private enterprises in the capital markets for investment funds and elsewhere for other inputs (e.g. government contracts). Therefore, the complex ways by which public largesse are granted directly or indirectly as well as their uses must be made transparent, enabling public inspection.

5. Conclusion

There are many difficulties in establishing the "proper" relationships between SOEs, other organs of the state and private enterprises. The problem of setting goals for SOEs remains largely unresolved. As long as we do not have a theory of the state, as long as we do not know what are the legitimate objectives and tradeoffs, there is no way to arrive at a normative answer as to whether the performance of certain enterprise is "socially desirable".

The complex relationships between the SOE and its environment cannot be solved by an "optimal contract," since the optimality characteristics are ill-defined. Different agents of the state, including the managers of the enterprises and their controllers as well as other constituents, negotiate continually on goals. Even if the problem of goal reconciliation could be solved, there are difficulties in monitoring behavior, controlling the ongoing relationships between SOEs management and other agents of the state and the degree of discrimination between SOEs and private enterprises. In real life situations, it is impossible to foresee in advance all the decisions to be faced. In a world of uncertainty many situations arise in which judgment must be used. Should the enterprise sign a long term contract with a supplier? Should the arms industry of a country A sell tanks to country B? Should a subsidiary be established in a foreign country? In all these cases, the decision making process can be influenced, even though the outcomes are not dictated.

A better understanding of the decision making processes can lead to the design of different processes contingent upon the type of decision to be reached or the type of enterprise in which the decision is being made. A modification of behavior and performance can be achieved by prescribing changes in: 1) the structure in which the activities take place; 2) the participants in the process, their role and their power to veto decisions; 3) the types of information participants should receive before a decision is made; 4) the interactions among various participants.

The degree to which decision processes can be changed depends on the political structure and its ability to adapt itself. It is hoped that the theoretical problems related to SOEs will be explored by more researchers, interested in questions of organization design.[2]

[2] A draft of this paper was written while the author was Thomas Henry Carroll–Ford Foundation Visiting Professor of Business Administration, at the Harvard Business School.

The help and encouragement of Arie Y. Lewin and the comments of anonymous reviewers is gratefully acknowledged.

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Published in Management Science on November 01, 1981 as DOI: 10.1287/mnsc.27.11.1340.
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