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PERFORMANCE IMPROVEMENT OF PUBLIC SECTOR INDUSTRIES IN
MIXED ECONOMY COUNTRIES^{1/}

by

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Performance Improvement of Public Sector Industries in
Mixed Economy Countries

A. Introduction:

The international debate on the role of the public sector in economic development has gained intensity in recent years.* It is recognized, that certain development objectives cannot be achieved by free-wheeling private enterprises alone and few Governments possess the instruments of channelling private industrial activities towards the achievement of some of the objectives of national priority.

Because of the virtual absence of indirect mechanisms of control, Governments have started to develop the necessary industrial initiatives on their own and are now faced with the peculiar problems of public sector industrial management in mixed economies, where demand factors are of primary importance in determining success and failure and where the gradual fulfilment of an economic role - into which the enterprise grows - is dependent upon the compatibility of its offer with the unchannelled requirements of persons and institutions in possession of the purchasing power to represent the demand.

Some of the objectives of public sector industry involve a more equitable distribution of goods and services precisely to those, who do not have the purchasing power. Other objectives involve contributions to a public good (such as improvement in infrastructure or of the educational system) for which the market forces have since long been put out of effect in many countries.

* In particular General Assembly Resolution 32/179 of 19 December 1977, the Resolution of the Industrial Development Board at its 245th Plenary Meeting of 26 May 1978 and the Resolution of the Economic and Social Council at its 37th Plenary Meeting on 3 August 1978. See also the reports on the Expert Group Meeting on the Role of the Public Sector in the Industrialization of the Developing Countries of 14-18 May 1979, prepared by UNIDO, Vienna.

The following consideration will endeavour to apply the economic principle to public sector enterprises according to which its contribution to the community - i.e. the consumers individual and collective, present and future requirements - must be greater, than the cost of the enterprise to the same community.

Whereas the consumers - if adequately educated - and also the intermediary producers and distributors - will be able to determine most of their present and many of their future requirements, collective requirements are normally represented by collective organs, be they centralized or decentralized. As they do not only regard economic strength - for instance expressed in terms of purchasing power - but also communitarian principles - in particular the equitable distribution of basic products and services, it is necessary - in order to uphold the economic principle mentioned above - to assign an economic value also to those public sector activities which are designed to provide a:

- better distribution of income and the
- achievement of certain public goals.

The following proposal is made to present a concept on how this would be put to effect to achieve one of the main topics of the ongoing international discussion of public sector industries:

- Better performance measurement as a basis for improving the economicalness* of public sector industry.

B. The Profit and Loss Statement:

Profit and loss statements in the private sector carry as their basic message the existential question on the economic viability of the company - which cannot continuously incur losses without being doomed to disappear. Profits are distributed, losses must be compensated. The profit and loss statement indicates, whether the company works economically, i.e. whether

* The term reflects a compromise. Its meaning should really be "respect for the economic principle", which means that the created value must be higher than the value consumed.

the intake or compensation of the enterprise is bigger than its production which is measured in the form of income.

A second objective of the profit and loss statement is a more or less summary comparison of the last operational period (mostly the preceding year) to other periods to permit a first identification of those cost and income factors, which have caused a change in the overall picture. These observations will then lead to further analysis and discussions, a major factor in the improvement process of industrial activities in general.

Profit and loss statements - in private industry- do not normally provide a comprehensive assessment of the capacity of the company's management in responding to market requirements with better systems than competitors. Sudden changes in economic conditions may lead to "undeserved" windfall profits or equally undeserved losses due to a sudden reshuffling of demand priorities.

In public sector industry, they do not carry the same existential message. The Government will normally accept the losses of these enterprises in the light of their orientation towards the fulfilment of public goals. As the losses themselves are - wherever possible - compensated, sometimes after presentation of a justifying comment, sometimes without, little further analysis is made. So small is the interest of some Governments in these statements and reports, that formal profit and loss statements often lag several years behind. Illiquidity situations caused either by expenditure peaks of large investments or by continuous cash drain are settled by sporadic injections in the form of long-term credits, subsidies, grants or additional equity (in the case of new investments for instance).

One of the principal reasons for the low interest in such statements is the frequent mixture of three elements of public sector enterprises which are difficult to separate:

- The profit principle
- The dedication to the public good and
- Inherent (sometimes inherited) inefficiency.

When these three elements can not be clearly separated, a profit and loss statement is meaningless. To separate these three elements, the following procedure is suggested:

- 1) Similar to the profit and loss statement in private industry total income over a year (excluding Government subsidies, grants or grant-type credits) is set against total expenditure. This will often result in a deficit - normally identified as a loss in private industry
- 2) An estimate is then made of the total expenditure of the company, which can be more or less clearly attributed to the fulfilment of the public objectives and which is not compensated through income derived from normal operations (sales, etc.). This figure, which should take into account all the various costs related to the fulfilment of public objectives, may - for various reasons - be increased by a small overhead margin (10-20%). It is then inserted in the statement as income from the nation or the Government, independent of whether the income has already actually been received or not. The Government in turn will carry the same figure in its own books as an obligation of payment (reduced of course by the transfers already made).
- 3) Although the total deficit figure mentioned above will serve as a pillar of orientation, allowance should be made for clearly undesirable expenditure, which should be identified on the expenditure side of the statement as either a one time loss (for instance full depreciation of inadequate installations) or as a productivity reserve where an effort will be made to save such expenditure in the future.

The expenditure and income statement of a company producing less than it consumes would then look as follows:

Expenditures*	100	Income*	95
(of which: one time downward adjustment 4 of which: productivity reserve in normal operations 3**)		(of which operational 90 of which credit against the public 15)	
Total	7**)	Deficit	5
Total	100	Total	100

The expenditure and income statement of the same company operating with a surplus the next year may then look as follows:

Expenditures*	110	Income*	115
(of which productivity reserve 2)		(of which operational 90 of which credit against the public 25)	
Surplus	5		
Total	115	Total	115

It is now important to define the various items under consideration. First of all, a public sector company using the suggested type of income and expenditure statement, will produce a surplus, if it operates efficiently. This corresponds to the economic principle that the aggregated value of output should not be smaller than the aggregated value of input or only equal to it.

If it is smaller, this can normally be attributed to either:

- exaggerated running costs or
- uselessness of the operation as such either in part (certain machines or installations) or as a whole (for instance when the wrong raw material is used in the process - as for instance naphtha instead of natural gas for ammonia manufacture).

* detailed according to normal practice

** this total must be defined to be as high or higher than the deficit

Exaggerated running costs should be shown as a productivity reserve (with the exception of high labour cost caused by the Government's employment policy - this would have to be interpreted as a contribution to a public good). The purpose of using such an item will serve to stimulate improvements and give the reason for temporary losses.

Machinery or installations for which there is no hope for later productive use - if necessary the entire plant - should be written off in one instance to their residual value (normally the resale value) in order not to bias future performance measurements. Otherwise, if for instance an irreparable or outdated fork lift truck or boiler or packaging machine was allowed to appear as a depreciation item for many years, the negative - and unjustified - impact of previous management would be allowed to continue to reflect on the performance of current management.

The aggregate of productivity reserves and one-time write-offs must by definition always be higher than any deficits shown on the income side of the statement.

The operational income of the company is defined as such income, which is derived from the sale of goods and services, easily measured by way of normal accounting practices.

The contribution to the public good is less easily measurable. It should be sub-divided into:

- Straightforward subsidies in line with declared social policy
- qualitative improvements of the public good.

To obtain an exact estimate of the subsidy contribution, the company should look at all of its special tariff arrangements, first at those, where it does not even cover its direct cost (raw, auxiliary and maintenance materials and directly attributable labour costs including fringe benefits). Estimates should be made of the sacrifice in income attributed to special

tariffs, which would not be seen as simple market splitting tariffs as they are used also by private industry for the purpose of income maximisation (for instance students tariffs in private industry will still carry a small margin). The amount attributed to the category "subsidy" should normally be based on precise cost figures but in the absence of such figures should be determined by an estimate of the subsidy share in specific products and services. As illustrated before, this subsidy share multiplied by the volume of goods and services sold at subsidy rates should be shown as a credit against the public.

Of greater interest still is the process of estimating the public good created. In this connection, it is proposed to invert the reasoning. Rather than trying to estimate, which value will be created to society as a whole by maintaining for instance labour intensive industries in otherwise remote or uneconomic locations, one should start with the assumptions that the value created is at least equal to the expenditure* (which is not covered by commercial operations plus subsidy plus productivity reserve). For the sake of simplification, one will then look at this figure which represents the contribution of the company to the public good or goods in question in order to determine whether the effort justifies the result. Should there be no such justification, consideration must be given to alternative solutions.

If it is believed that the public purpose indeed justifies the expenditure, the exact definition of this purpose or purposes will be required.

One of the main benefits of the proposed scheme lies in the clear definition of nationally (and maybe later internationally) accepted terms to which the respective expenditure can be attributed. Many of these terms will be found in the national plan. Putting figures to the expenditures for the respective purposes (for instance rural development, training of skilled labour, the start of national research

* The same assumption is implicitly made also in the case of the subsidized products and services. Here, however, the assumed value is the product or service sold at "normal" prices.

in specific technological areas, etc.) will be very useful in sharpening the meaning of the respective purposes themselves. The management of the company will have its terms of reference from the Government. When looking at the respective expenditures it will propose the proportions in which the expenditure should be attributed to the different objectives (for instance 4.000 currency units to infrastructural development, 5.000 currency units to the training of skilled personnel for other industries and 6.000 currency units to advance national research capability in a given field - if such research is not part of the company's regular operations anyway).

Having identified the contribution to the public good in clear terms and quantified the respective items, the company will then insert these terms and figures in its expenditure and income statement.

When looking at the various annual statements of its public sector industries - which are of course elaborated in cooperation between the industry and the co-ordinating bodies - the Government will soon note a tendency of recurrence of terms for practically all such statements reflecting its own statements of national priorities.

It could be assumed, that a set of about a dozen development terms will cover most of the public purposes pursued by public industry. The figures, which will be attributed to each of these terms by each company (in some countries there are several hundred publicly owned medium and large-scale industries) can then be consolidated - regionally, by sectors and nationally.

A comprehensive and detailed assessment of the load carried by public sector industry can thus be made and decisions can subsequently be taken regarding cost and benefit of each of the public goods pursued.

The exercise will still become more meaningful, if these figures are then consolidated with and compared to similar expenditures by other Government institutes (ministries, autonomous bodies such as research institutes, schools, etc.).

Alternative solutions - for instance with respect to rural development where subsidies are given, industries created and roads and railways are built - can best be considered when one has an estimate of the cost of each and a way of assessing the benefit - which shall not be discussed here.

Performance measurement of public sector industry on the basis of expenditure and income statements will have a most stimulating impact on the overall discussion of development concepts in a country for the purpose of optimizing development policy through a process of continuous improvement of the combination of the various expenditures devoted to the pursuit of the different goals.

C. The Use of Indices in Performance Evaluation:

Whereas private industry normally considers the year end financial statement - i.e. the balance sheet in combination with the profit and loss statement - as the basic form of a management reporting system, public sector enterprise had traditionally given lesser to no importance to these year end accounts. The preceding proposal is intended to render public industrial accounting meaningful by the use of the instruments listed: One time write-offs, open declaration of productivity reserves and the introduction of an item "Contribution to the Public Good" into the income side of the income and expenditure statement.

Another method of performance measurement equally applicable to private and public sector industries is the use of performance indices.

Since many of these indices relate to efficiency aspects of operation, each public sector company could and should rely as much

as possible on the regular compilation of a set of indices to determine the productivity of the various production factors (labour, equipment) or of various functions such as purchasing, production, warehousing or marketing.

Indices - even more than financial statements - are instruments for comparison. A set of indices elaborated at year end, for instance:-

- shoes produced per production worker
- tons of output of pesticide per installation or
- purchasing discounts divided by purchasing department cost or
- days of merchandise supply in average stock or
- advertising cost in percent of sales

derives its value from comparison, and exclusively from that.

First, there is the comparison of different operating periods of a company to each other. Trends become discernible, encouraging developments appear more clearly, undesirable developments can be disguised and corrected.

Second, and more important, there is the comparison between companies which operate more or less in the same field. All inter-company comparisons, however, carry some handicaps, which - although many of these can be turned to an advantage - must be clearly recognized:

- difference in the size and the mix of production factors between companies (some are more capital intensive than others);
- difference in organizational structure (some put emphasis on cheap purchasing and mass production, others on high level market appeals;
- difference in products and services offered;
- differences of a national, geographical or climatic nature;
- difference in the terms used (labour may mean only direct labour in one case, all plant labour or even all people employed in another case).

Whereas differences in the nature of the enterprises often give interesting insights into the viability of alternative approaches (for instance labour intensive industries could be as good as capital intensive industries, small module-type operations as good as large-scale plants), differences in the meaning of the terms used are undesirable and make inter-company comparison difficult.

It will be necessary to come to an international recommendation regarding the interpretation of terms used in the preparation of indices.

An international scheme of inter-company comparison should also recommend a limited* set of indices, which will provide a maximum of information on industrial performance.

Once the terms have been defined and the respective indices selected, inter-company comparison should start on an international basis in the form of a service to those public industrial enterprises, which want to participate in the scheme by supplying their own figures and thereby obtaining access to the figures of other participating companies. The service would be offered on a completely confidential basis.

It has been suggested in the recent UNIDO meeting when discussing the performance evaluation of public sector enterprises, that productivity of such enterprises could be measured only through work study. Although work study is useful, it is normally performed by specialized outsiders to the companies and it would be extremely ambitious to cover all public sector enterprises** in developing countries with individual work study assignments.

Inter-company comparison - and the production of meaningful statistical data on specific industrial sectors - may have a more immediate impact.

This is because actual comparisons are normally more challenging than individual analysis. Equally important, however, is the fact, that an international exchange of data can be

* Only indices with a relevant meaning should be selected. Overlap should and could be avoided by the use of multi-variate methods.

** There are several hundred public sector enterprises in some countries as opposed to very few work study professionals world-wide.

implemented than a world-wide endeavour to introduce work study methods in all public sector enterprises.

D. Justification and Incentives for Public Accountability:

Since public sector enterprises normally consume public resources, the public - normally represented by the Government - is entitled to accounts on the use of these resources. It has been suggested by some, that in addition to the normal type of supervision, public sector enterprises should be supervised by a supreme auditing body, the function of which would be to maintain a detailed financial control of the company's operations. The purpose of auditing is often seen exclusively in the avoidance of irregularities.

The main advantage of the company's books should, however, be seen in the capacity of efficient control systems to assist in the decision-making process. The main raison d'être of proper accounts and index figures is, therefore, their usefulness to management. Whenever regular auditing of companies is implemented, it should be tailored around the main purpose of accounting: to be a management tool. Avoidance of irregularities will then be a surplus item rather than the principle result of the auditing activities.

Only when the measurement of performance will have thus been meaningful to the company management itself, there will be a positive incentive to use the respective information. Performance measurement should be made in such a way, that performance improvement becomes almost the natural consequence.

A similar reasoning applies to the assessment of the contribution to the public good mentioned earlier. A company, which will have determined the exact purpose of its (non-profitable) operations in discussion with the Government (for instance whether most of this should be rural development or rather training or general transportation, infrastructure or a mixture of all) will justify more easily its various programmes

than a company which simply runs deficits in pursuit of an undefined public purpose.

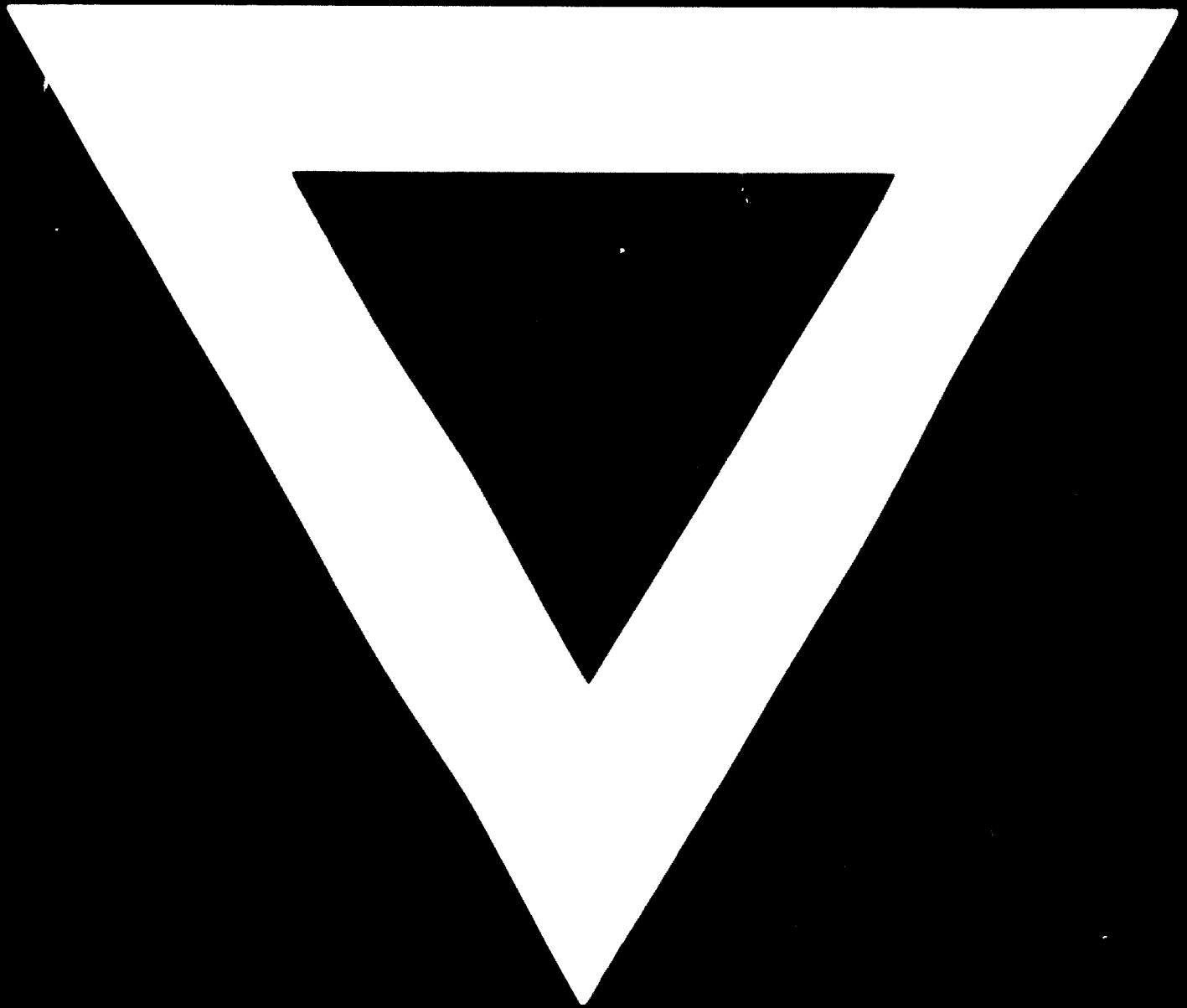
E. Conclusions:

It is attempted by this paper to contribute to the discussion of one of the specific problems of public industrial enterprises, which openly or implicitly hovers over many of the international contributions made to the subject: The specific question of performance evaluation of public sector industry.

Without new norms in this area, it will be difficult to focus on the role of public sector industry as such. 'Management' training should be done in line with established norms of public accountability - and will remain floating without such norms. The norms themselves must be designed in such a way that they encourage self-control rather than burdening management with bureaucratic exercises, which are of little to no use to the management activity itself.

It is also attempted to suggest new areas of activities for international organizations in bringing about practice-oriented suggestions and wherever possible a growing consensus in creating an international terminology for the discussion of performance of public sector industry in line with the requirements of the countries served.

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