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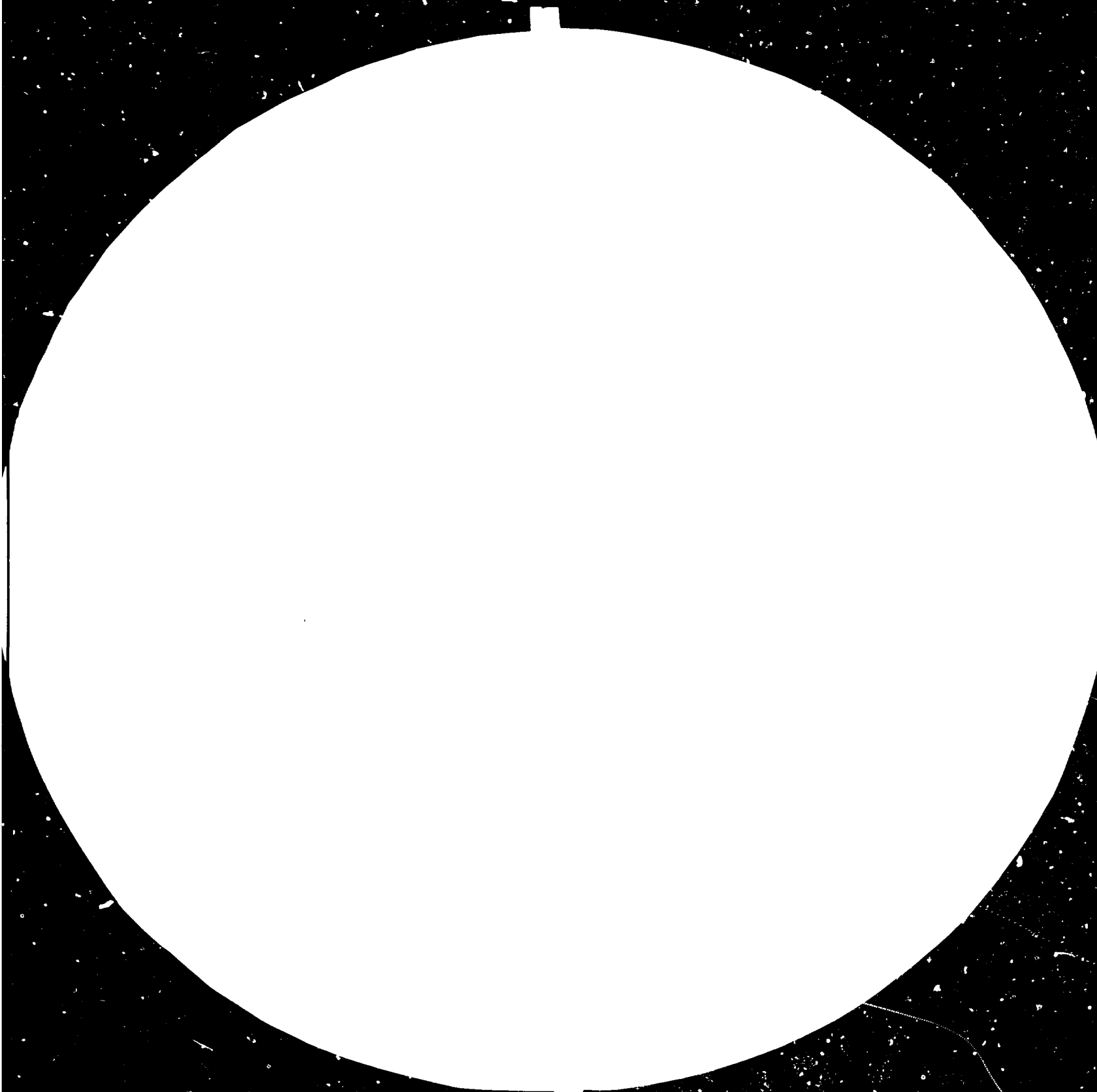
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UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

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THE CHANGING ROLE OF THE PUBLIC INDUSTRIAL SECTOR  
IN DEVELOPMENT

Prepared by

Regional and Country Studies Branch  
Division for Industrial Studies

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## PREFACE

This document on "The Changing Role of the Public Industrial Sector in Development" has been prepared in response to a recommendation made by the UNIDO expert group meeting on the Changing Role and Function of the Public Industrial Sector in Development held from 5 to 9 October 1981 in Vienna. This expert group recommended inter alia that the report of the meeting together with resource papers should be published by UNIDO for dissemination to government policy-makers, planners, administrators and managers of public enterprises in developing countries and to governmental and non-governmental institutions.

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EXPLANATORY NOTES

The following abbreviations have been used in this document:

APDC	Asian and Pacific Development Administration Centre
BHEL	Bharat Heavy Electricals Limited
CAFRAD	Centre africain de formation et de recherche administratives pour le développement (African Training and Research Centre in Administration and Development)
CLAD	Centro Latinoamericano de Administración para el Desarrollo (Latin American Center for Development Administration)
CPE	Centrally planned economies
DME	Developed market economies
ECWA	Economic Commission for Western Asia
ESCAP	Economic and Social Commission for Asia and the Pacific
ICPE	International Center for Public Enterprises (ICPE), Ljubljana, Yugoslavia
IDRC	International Development Research Centre, Ottawa, Canada
ME	Mixed enterprise(s) (public and private)
OECD	Organisation for Economic Co-operation and Development
PE	Public enterprise(s)
PIE	Public industrial enterprise(s)
PSIE	Public sector industrial enterprise(s)

## INTRODUCTION

### Background

There have been significant changes in the role and function of the public industrial sector in both developing and developed countries in recent years. The degree of public ownership and control over industry has varied considerably over time and among different countries. This has come about as a result of varying economic, social and political circumstances. In the developing countries governments have often turned to the public industrial sector to support government efforts in implementing industrial development goals, including inter alia control and development of natural resources and basic industries. At other times these countries have decelerated their promotion of public industrial enterprises to take stock of their level of efficiency and effectiveness. The developed countries also appear to have had changing policies regarding the public industrial sector in their quest to solve their own critical economic and social problems. One emerging phenomenon which does appear clear is that the increasing use of the public industrial sector to achieve a number of national objectives has led to a greater interplay of public and private forces and blending of the role and function of public, semi-public and private industrial enterprises.

The United Nations have recognized the importance of public enterprises within the process of industrialization and as a factor of economic and social advancement of the developing world. In recognition of this, the General Assembly of the United Nations in resolution 32/179 of 19 December 1977, requested the Secretary General "to continue studying the role of the public sector in promoting the economic development of developing countries" and in doing so to take into account "the role of the public sector in implementing the long-term strategy of industrialization". The

Industrial Development Board accordingly in its resolution 48(XII) of 26 May 1978, requested the Executive Director of the United Nations Industrial Development Organization (UNIDO) to participate fully in this study.

In pursuing these directives, UNIDO's Division for Industrial Studies, initiated a research programme on the role of public industrial enterprises in industrial and economic development. Within this programme, an expert group meeting was convened in Vienna in May 1979 to make a broad overview of the major issues confronting public industrial enterprises in developing countries. These issues include: strategic aspects, special responsibilities of public industrial enterprises, organizational and institutional factors and management problems. The meeting recommended that UNIDO should continue its studies, particularly with a view to further understanding the rationale and role of public industrial enterprises, their design and framework, their qualitative and quantitative impact upon growth and development of industry in varying environments, their dynamics of growth, their interlinkages, their corporate structures and legal forms, methodologies of control and supervision, corporate planning techniques and systems of performance evaluation.

Pursuant to these recommendations UNIDO undertook a series of country and issue oriented studies.<sup>1/</sup> These research activities focussed on the role of the public industrial sector in selected developing countries, in terms of its function, performance and contribution to industrial development. The studies examined specific issues of relevance to the operation and control of public industrial enterprises such as the question of government policies and strategies, the institutional framework, organizational aspects, interlinkages, corporate planning and performance evaluation.

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<sup>1/</sup> A list of studies undertaken by UNIDO on the role of the public industrial sector in development is contained in the Annex.

Following the undertaking of these studies, UNIDO organized an expert group meeting on the Changing Role and Function of the Public Industrial Sector in Development, 5-9 October 1981, in Vienna. The expert group examined the question of improving the performance of public industrial enterprises, the question of objectives, the relationship between national development strategies and the policy and practice of public industrial enterprises, the comparative roles of the public and private industrial sector, the legal forms and organizational structure, the relevance of corporate planning in public enterprises, the issue of interlinkages and the question of performance evaluation.

The UNIDO expert group meetings on the public industrial sector held in 1979 and 1981 were organized in close collaboration with the International Center for Public Enterprises in Developing Countries (ICPE), Ljubljana, Yugoslavia.

#### Aim and structure of the publication

The aim of this publication is to present main findings of the UNIDO research programme on the public sector and industrialization and to highlight key issues relating to the changing role and function of the public industrial sector in developing countries. The publication aims to provide guidelines for policy-makers, planners, administrators and top managers of public industries as well as governmental and non-governmental institutions dealing with the efficiency and effective contribution of the public industrial sector to the economic and social advancement of the developing countries. The study does not endeavour to offer complete or universal solutions to all major problems facing the public industrial sector today. Rather the intention is to present only the data and information available from UNIDO's studies and to make a contribution to the research and debate on this subject. The document contains edited versions of selected

studies undertaken by UNIDO and papers presented by eminent experts to the UNIDO expert group meeting on the Changing Role and Function of the Public Industrial Sector in Development, including the report of the meeting. The edited versions have been prepared by the Secretariat assisted by Mr. Javed Ansari, as UNIDO consultant.

The document consists of three parts. Part one records the deliberations and recommendations of the expert group meeting held at Vienna in October 1981. These recommendations would seem to be of practical value to public sector planners, policy makers, administrators and managers. Part two is concerned with a description of the role of public industrial enterprises in developing countries and with an assessment of the impact of the public industrial sector on the rate and structure of industrial development. The experience of both developed market economy countries, centrally planned economies and some African developing countries, are also presented for comparative purposes. Part three addresses issues related to the organizational development of public industrial enterprises and to the relationship between organizational objectives and control structures. Alternative approaches to the task of performance evaluation of public industrial enterprise are also discussed. A case study on organizational development and corporate planning is included in part three of this study.



PART ONE: REPORT AND RECOMMENDATIONS OF THE UNIDO EXPERT  
GROUP MEETING ON THE CHANGING ROLE AND FUNCTION  
OF THE PUBLIC INDUSTRIAL SECTOR IN DEVELOPMENT

(Vienna, 5-9 October 1981)

A. ORGANIZATION OF THE MEETING

The expert group meeting on the Changing Role and Function of the Public Industrial Sector was organized by UNIDO at Vienna from 5th to 9th October 1981. The meeting was attended by 20 participants including policy-makers, enterprise managers and representatives of the academic world from developing countries, developed market economies and centrally planned economies.<sup>1/</sup> Papers were submitted which UNIDO had undertaken and commissioned on conceptual as well as empirical aspects, including some country case studies.<sup>2/</sup> An issue paper "Public Industrial Enterprises in Developing Countries" was prepared in collaboration with Praxy Fernandes, Chief UN Adviser of the International Center for Public Enterprises in Developing Countries (ICPE).

The specific objectives of the meeting as elaborated in the aide-memoire were to review relevant research as well as experience on the issues concerned and to provide guidelines for policy-makers, planners and administrators as well as top managers of public industries in developing countries.

The aide-memoire as well as the issue paper amplified these objectives by proposing the following agenda which was accepted for consideration of the expert group:

- (a) The conceptual basis of the public industrial sector
- (b) Industrial goals, policies and plans of developing countries and their impact on public industrial enterprises
- (c) The comparative impact of public and private enterprises in industrial development
- (d) Organizational framework, institutional relationship and management of public industrial enterprises

<sup>1/</sup> See Appendix I. List of Participants, page 33.

<sup>2/</sup> See Annex, List of UNIDO Studies on the Role of the Public Industrial Sector in Development, page 361.

- (e) Planning in public enterprises
- (f) Interlinkages
- (g) The evaluation of performance of public industrial enterprises

The expert group meeting was opened by the Deputy Executive Director of UNIDO who stressed the importance of the meeting as a recognition of the crucial role which the public industrial sector was expected to play in implementing the long-term strategy of industrialization of developing countries. A significant portion of the UNIDO technical assistance programme was directed towards assisting public enterprises in developing countries. While public industries had been created for a variety of motives, it was essential for developing countries - irrespective of their social, economic and political systems - to have clear concepts regarding the rationale for creating public industries. The importance of well-conceived industrial development policies and strategies must be recognized as well as the need for a clear understanding of the specific role and function of public industry, co-operatives, joint ventures and private industries, taking into account effective interlinkages among these categories. It was necessary, to ensure efficiency of operation of the public sector and the effective discharge of social responsibility.

The Head of UNIDO's Regional and Country Studies Branch elaborated the objectives and methodology envisaged for the meeting, highlighted some of the major issues which required the consideration of the experts and suggested that the expert group meeting should adopt an action-oriented approach and make specific recommendations. These recommendations could lead to a programme of activity to be undertaken by UNIDO in co-operation with ICPE and other international and regional organizations, relevant to the needs of public industrial enterprises.

Mr. P. Fernandes, Chief United Nations Adviser (ICPE), presented the issues paper, and identified the main questions for examination. He suggested that while disaggregating the issues it was necessary to take a synoptic view of the total problem.

The expert group meeting elected the following officers:

Chairman	-	Praxy Fernandes
Vice Chairman	-	U. Udo-Aka
Rapporteur	-	Leroy P. Jones

In the course of the meeting the expert group adopted a work programme. Under each agenda item discussions leaders were appointed to introduce the subject followed by presentation of papers and discussions. The expert group prepared a report and agreed upon a set of conclusions and recommendations which are briefly summarized in the following sections.

B: CONCLUSIONS AND RECOMMENDATIONS

The Expert Group attempted to examine a series of important issues underlying the potential improvement of performance of public enterprises. This examination covered the conceptual basis of public enterprises, the question of objectives, the relationship between national development strategies and the policy and practice of public enterprises, the comparative roles of the public and private sectors, the legal forms and organisational structure, the relevance of planning in public enterprises, the issues of interlinkages and finally the critical question of performance evaluation.

The Expert Group incorporated its observations, conclusions and recommendations within the body of its report under each specific section. In summarising its conclusions the Group highlighted the following:

- (a) It was essential for developing countries to conceptualise the basis of public enterprises and to clarify the motivations for their existence and the goals and objectives expected of them;
- (b) Difficult as this might be, the Group felt that this was a pre-requisite to the improvement of performance;
- (c) The policies and managerial practices of public industrial enterprises must be integrated within the framework of the national economic, social and strategic approaches to development;
- (d) It would be desirable to clarify the comparative roles of the public and private sectors in the strategies of development, and the areas where they can usefully co-operate;
- (e) The use of various legal forms and organisational structures must be constantly reviewed with a view to employing them as instruments of better performance;

- (f) The adoption of long-term corporate strategies and plans by public enterprises would be useful in improving performance;
- (g) The adoption of corporate planning must be accompanied by the creation of the right environment, including the selection of competent leadership, delegation of authority to the enterprises, constructive relationship between the Government and enterprises, definition of autonomy and accountability, and the involvement of staff and their participation at all levels;
- (h) This should be based upon the understanding of the interlinkages between public enterprises and other external factors;
- (i) There was an urgent need to refine the system of performance evaluation and convert it into a practical management tool.

In making the above comments the Expert Group recorded the following recommendations:

- (a) The report of the meeting, together with the resource papers, should be published by UNIDO for dissemination to government policy-makers, planners, administrators and managers of public enterprises in developing countries and to governmental and non-governmental institutions;
- (b) UNIDO should continue its efforts to contribute to improved performance of public enterprises through its research and technical assistance, particularly in the fields of pre-feasibility studies, management training, information, technical and economic co-operation among developing countries, and other programmes;
- (c) The Group suggested that UNIDO should co-operate with the International Center for Public Enterprises for Developing Countries (ICPE) and other international and regional organisations, and undertake an examination of some of the basic issues which had been considered, particularly the promotion of corporate planning of public enterprises, taking into account the experience of countries with

different socio-economic and socio-political systems, studies on interlinkages and the development of more effective systems of performance evaluation;

- (d) The UNIDO Division of Industrial Operations could play a most valuable part in helping public enterprises through consultancy and technical assistance;
- (e) The Group emphasised the important role of training and suggested that the UNIDO Training Branch should intensify its training programmes for the public industrial sector;
- (f) There was an important need for further intensification and enlargement of UNIDO assistance in the preparation of pre-feasibility studies and in developing national capabilities and self-reliance in the preparation and evaluation of feasibility studies;
- (g) Equally important was the need for improving management systems and effective methods of training of managerial and other key personnel;
- (h) In developing a programme of activities, the Group recommended that UNIDO should work in close co-operation with other international institutions devoted to the needs of public enterprises, particularly the ICPE at Ljubljana, and the regional and national institutions established for the improvement of public administration, development planning and public enterprise management such as the Asian and Pacific Development Administration Center (APDC), Centre africain de formation et de recherche administratives pour le developpement (CAFRAD) and Centro Latinoamericano de Administración para el Desarrollo (CLAD).

C. REPORT OF THE MEETING

The Conceptual Basis of the Public Industrial Sector

The Expert Group felt that an examination of the changing role and function of the public industrial sector, and a true understanding of its actual and potential impact on industrialisation and economic development, necessitated an appreciation of the concept of public enterprise in general and the public industrial enterprise in particular. The articulation of goals, the designing of policies, managerial systems, organisational structures and performance evaluation were entirely dependent upon the approach which the developing countries adopted in respect of the character and personality of public industrial enterprises. The meeting recognised that the role of public industrial enterprises in national development was the result of a complex interrelationship among economic, social, political and historical factors. Economic considerations on the one hand and socio-political considerations on the other, represented two angles of the perception of the role and rationale of public industrial enterprises.

In analysing current research and experience of the organisation and management of public industrial enterprises, the Group felt that it would be useful to distinguish between three levels of analysis: conceptual, normative and actual.

It was felt that a suggested classification into "neo-classical" and "neo-Kaleckian" theoretical approaches was both too narrow and over-emphasised. The meeting felt that a more rational grouping of approaches would be economic and socio-political. While recognising the nuances of difference between these two approaches, it was noted that in actual practice it would be inappropriate to completely isolate them.

The Expert Group noted that studies on this subject initiated by UNIDO, and the subject of the meeting itself, were confined to the manufacturing sector. For a true understanding of the concept of public enterprises it was necessary to examine the range of direct public participation in the marketplace, including enterprises in the infrastructure, the public utilities, the service sector and the extractive sector. The Expert Group noted that other government actions, such as the elimination of price distortions, could also foster the efficiency of both public and private enterprises and the industrialisation process.

The Group took note of the findings of the Tangiers Expert Group Meeting on the Concept Definition and Classification of Public Enterprises, which was organised by the ICPE in December 1980. The concept of public enterprises as seen by the Tangiers Group was based on an interaction of two dimensions - the public dimension and the enterprise dimension - with a consequential finding that the examination of alternative approaches and the relative balance of the two dimensions in various environments could be a useful means of analysing different concepts of public enterprise. Such an analysis also needed to be supported by taxonomical studies.

The Expert Group took note of the framework proposed by the Tangiers Group, and on this basis examined the theoretical and practical interpretations of these two dimensions in different environments. It was agreed that the public dimension of public industrial enterprises implied not only public ownership but also public control and public purpose. On the other hand, the enterprise dimension implied concepts of the business firm. The existing diversity in the conceptual approaches to public enterprises in different socio-economic systems tended to reflect the balance between the two dimensions.

In considering this question of concept, the meeting noted that in certain developing countries the growth of the public industrial sector was based on ideological considerations. In others, however, public



enterprises had tended to grow for practical considerations, such as the gap in the availability of private endeavour, strategic considerations and the control over natural monopolies. This development appeared to indicate an economic rationale for public enterprises. Supporting this view was the patent fact that public enterprises had grown substantially in some industrial branches, even in the economies of the industrialised world.

It was pointed out that new forms of public industrial enterprise had arisen in some countries on the basis of "social ownership". Further, in a few countries the co-operative sector was included in the domain of the public sector; however, it was most commonly classified either separately or under the sphere of private enterprises.

The meeting was of the view that an analysis of the origin of public industrial enterprises and an understanding of their conceptual basis was an essential starting point for further consideration of their policies, practices and performances. In particular, it was felt that the goals and objectives of public industrial enterprises which shaped the direction of their impact on economic development were crucial to the effective organisation and management of the public industrial sector. While conceding this position, the Group was firmly of the view that irrespective of the conceptual origin of public industrial enterprises, the need to manage and operate them at a high level of efficiency was paramount.

As an example of the role which public industrial enterprises could play in promoting social transformation which reflected its public dimension, the Group examined the specific contribution which public industrial enterprises could make to the advancement of the status of women and their integration as factors in development. The Group took note of the case study of a specific enterprise in a developing country which had conscientiously attempted to fulfil this role. The Group felt that public industrial enterprises could incorporate suitable policies in their

management practices to promote the advancement of women, including integrating women into plans at all levels, encouraging education and skill improvements, implementing international agreements, and creating a favourable climate of opinion.

Industrial Goals, Policies, and Plans of Developing Countries  
and their Impact on Public Industrial Enterprises

The meeting discussed the important question of establishing a nexus between the formulation of national policies and programmes of economic development and the specific impact which these policies had on the public industrial sector. It was clear that the goals of public industrial enterprises would have to be conditioned and determined by the direction of overall national goals and policies. In turn, these national goals and policies reflected national ideological approaches, the socio-economic environments and the historical and cultural conditions of each developing country.

The Group viewed this question in the light of empirical studies which were presented on the growth of the public industrial sector in the centrally planned economies of Eastern Europe, the developed market economies of Western Europe and the varying patterns of mixed economies in the Economic Commission for Western Asia (ECWA) and Economic and Social Commission for Asia and the Pacific (ESCAP) regions. These studies tended to show that the direction of the public industrial enterprises in the centrally planned economies was determined at a central level by national planners. The main tasks of the public industrial enterprises were determined based on and derived from the national plans. This often gave rise to a high degree of centralisation and control. However, it was noted that there were recent trends towards decentralisation and greater autonomy of public industrial enterprises in the centrally planned economies. The situation in the developed market economies was qualitatively different.

Since these economies were primarily based on the concept of free enterprise public enterprises were essentially of a supporting nature, acting mainly in the infrastructure and public utilities. Wherever public enterprises had been set up in the manufacturing sector there was a tendency to view them as business firms operating under marketing conditions. In the case of Austria, while no doubt the genesis of the public industrial enterprises was derived out of strategic considerations, their actual organisational management was of an entrepreneurial character.

The studies of the ECWA and ESCAP regions indicated a variety of patterns corresponding to the great diversity of socio-economic environments in these areas. Except for a few centrally planned economies such as People's Republic of China, Mongolia and Viet Nam, the bulk of the countries in these regions had developed various forms of mixed economy. The definition of the role of public industrial enterprises therefore tended to vary from country to country, depending upon local environmental factors and the relative balance between public and private endeavour.

The Expert Group noted that one of the problems arising both in the industrial as well as in the developing economies was that specific goals and objectives were not clear. While appreciating that public industrial enterprises were expected to be promoters of broader national objectives, the Group felt that the effective management of public industrial enterprises would depend to a large extent on a clearer definition of the specific obligations and responsibilities of individual enterprises, and furthermore, establishing their priorities. Taking into consideration the earlier examination of the public and enterprise dimensions of public industrial enterprises, there was a further need to clarify, as far as practical, the financial and commercial aims of the enterprises vis-a-vis the socio-economic aims.

In this context the Group noted the possibility that there could be two approaches to the question. The first which could be termed "synoptic

rationality" implied a clear specification and measurement of objectives defined by the Government and executed by the enterprises. The other process of "muddling through" which appeared to be in evidence more frequently, was based on the avoidance of any explicit declaration or quantification of objectives, as a more practical expedient towards achieving a consensus between different interest groups within the economy. It was noted that since public enterprises were expected to discharge a number of non-commercial goals which were difficult to measure, the process of synoptic rationality ran the danger of breaking down. Whether or not this could be remedied by devices for "commercialising" non-commercial objectives by quantifying them, was considered by the Group and it was felt that such a process might not be particularly feasible. It was also noted by the Group that in some countries the large public enterprises, whose impact on the national economy was of a critical nature, could influence the direction of national policy through their own managerial attitudes and behaviour. Evidently this process would have to be on the basis of harmony with the national goals and through an intensive process of iteration.

The Expert Group arrived at the conclusion that the problem of stimulating improved performance in public enterprises and raising the level of their efficiency was intimately connected with the question of specification of objectives. While recognising the difficulties which arose in their identification and the realities of the political and environmental situations, the meeting nevertheless urged that this question was the key to the situation, and a conscientious effort should be made to promote the idea of management of public industrial enterprises by objectives. Furthermore, these should be pre-determined and should not arise as a rationalisation of the actual results of working. The tendency for public enterprises to resort to explaining away deficiencies by saying that they were contributions to social goals was noted.

The Comparative Impact of Public and Private Enterprises in  
Industrial Development

The Expert Group recognised that most developing countries had created various patterns of mixed economies. Economic development was consequently promoted through the use of both instruments: public industrial enterprises and private enterprises. An understanding of the comparative roles of the two sectors and the relative impact which each of them made to industrial development was therefore important. In this context the Group took note of a comparative survey prepared by the UNIDO secretariat (Chapter 1 part two), which provided a substantive body of data on the situation in a wide range of developing countries. The survey identified the main motivating factors for the growth of public industrial enterprises, which included private sector inadequacies, control over natural monopolies, price stabilisation, mobilization of savings, foreign exchange earnings, exploitation of national resources, the urge towards self-reliance, employment generation and other socio-political aspirations. Some of the main findings of this survey were noted by the Group as follows:

- (a) The role of public industrial enterprises had been increasing, especially in some oil-producing countries; had decreased in some developing countries and had fluctuated in others. In some countries the role had changed with changes in Government;
- (b) The emphasis of public industrial investment was on capital goods and intermediate goods with a decrease at the higher stages of processing;
- (c) Resource-based industrialisation and industrial restructuring tended to create an expanded role for the public sector;
- (d) Consumer goods were primarily in the domain of the private or co-operative sectors;
- (e) There were indications that public industries generally contributed more to manufacturing investment than to employment and value added,

primarily due to their capital intensity;

- (f) In countries where public industries had come of age, policies were being more clearly enunciated, particularly in respect of their interlinkages with and role of the private sector;
- (g) The demarcation of boundaries between public and private enterprises raised some conceptual difficulties since ownership structures tended to be intertwined;
- (h) There was a significant growth of mixed enterprises and joint ventures between public and private enterprises and the emergence of a new breed of public industries reflecting the co-operative relationships between state, private domestic industry and foreign investment.

The wealth of data contained in the comparative survey and the implications for policy and strategy arising therefrom provided a basis for the Expert Group to examine the comparative impact of the public and private sectors. The Expert Group came to the following conclusions:

- (a) The nature and limitation of national data on the public industrial sector warranted cautious interpretation and conclusions;
- (b) The origin and motivations for the expansion of public industrial enterprises evidently varied from region to region and country to country. Furthermore, there had been significant changes and fluctuations over a period of time, within individual countries, reflecting a variety of political, social and economic factors;
- (c) Despite differences in ideological approach, there was ample evidence to indicate a substantial rise in the activity of public industrial enterprises in some industrial branches, even in countries which had conscientiously adopted market economies. It was not entirely possible to disentangle the political, social and economic motivations;
- (d) In some developing countries there were clear declarations of national industrial policy with a demarcation of the roles of the

public and private sectors. On the other hand there were many developing countries where the intents and purposes were not entirely specific and sectors were not demarcated into water-tight compartments. It would certainly be desirable for developing countries to enunciate industrial development policy and, wherever possible, specify what was expected of the public and the private sectors. While recognising the desirability of this approach, it was noted that such declarations might not always be practical or politically expedient;

- (e) The growth of the public industrial sector had been either through the establishment of state entrepreneurship or through the nationalisation and transfer of ownership from private to public hands. Both these processes were in evidence in the developing countries. The transfer of ownership, which might be necessitated by strategic and ideological considerations, did not by itself result in any expansion of national investment in industrial development. On the other hand, state entrepreneurship created new production capacities in the country. Furthermore, there was evidence to indicate that public enterprises which expanded on an entrepreneurial basis tended to develop dynamic and business-like attitudes and styles;
- (f) It was noted that in several developing countries the expansion of the public sector arose from the take-over of sick private units. This situation was necessitated by the desire of Governments to protect employment and productive capacity. The Group felt that the take-over of sick industries should be viewed with considerable care. There must be strong evidence of social purpose and reasonable prospects of economic recovery;
- (g) The comparison of the roles of public and private sectors was not merely a question of quantitative figures or percentages of investment; the more critical issue was whether the policies and

practices of public industrial enterprises were in any way different from those of private enterprises. In assuming that state intervention into business arose because of the desire to discharge social goals, it was necessary to ensure that the management, marketing and pricing policies of public industrial enterprises were such as to promote these social purposes;

- (h) Finally, the Group was of the view that the comparative roles of the public and private sectors should be reviewed in the light of the concept of "efficiency" which needed to be defined in broader national terms.

Organisational Framework, Institutional Relationships and Management of Public Industrial Enterprises

The Group felt that it was necessary to examine the impact of public industrial enterprises on economic development in the context of the legal structures, organisational framework and management attitudes and styles within the public enterprises, and to ascertain whether the choice of legal and institutional patterns had any relevance to the efficiency of public industrial enterprises.

The expert group considered a paper by M. Ahmad (ID/WG.343/2, see Annex and Chapter V Part Three) which provided a review of the three normally adopted forms of public enterprises, departmental enterprises, statutory corporations and government companies. Discussions on this issue gave rise to the following observations and conclusions:

- (a) Prima facie, it would appear that different legal structures and organisational patterns had a conditioning influence on the policies and practices in public enterprises in such matters as decision-making, communications, hierarchy in leadership, delegation and co-ordination;
- (b) It was, however, necessary to recognise that the de jure position might not be necessarily matched by the de facto position, and that formal systems needed to be viewed in the light of informal systems;



- (c) It was noted that in some countries there was a trend to move from one form of organisation to another, graduating from departmental undertakings to government companies;
- (d) The choice of legal structure was also often dependent upon the nature of the industry, the degree of its strategic position and the direction of social purpose;
- (e) It was natural that departmental undertakings, being closer to the Government itself, would tend to inherit bureaucratic procedures and practices. On the other hand, it would be reasonable to expect that enterprises operated in the form of a company would tend to develop a business orientation;
- (f) It should be recognised that in the matter of organisation it was not only a question of the legal structure but also a matter of structural form. In this context, institutions such as holding companies and subsidiaries, multi-unit and multi-product operations, mixed enterprises and joint ventures created either in the form of companies or corporations would tend to develop varying behavioural patterns;
- (g) The important issue was not so much the external legal form: managerial efficiency was more significantly influenced by other factors such as:
  - (i) The availability of competent top management and leadership;
  - (ii) Clarity of the purposes of the enterprise;
  - (iii) The existence of bureaucratic and hierarchical systems or participative systems;
  - (iv) The degree of autonomy allowed to the enterprise;
  - (v) The nature and sensitivity of the supervisory control systems;
  - (vi) The relationships between Government and the enterprise;
  - (vii) The extent to which entrepreneurial ability and initiative were fostered in the enterprise.

Planning in Public Enterprises

The Expert Group examined in detail a specific case-study of Bharat Heavy Electricals Limited (BHEL), a large Indian public industrial enterprise (see Chapter VIII Part Three). This case study detailed the revival and rehabilitation of a sick public industrial enterprise and its conversion into an effective and entrepreneurially oriented company. The transformation process was carried out through the adoption of corporate planning. The approach to corporate planning was exemplified by the case of BHEL and included:

- (a) The search for the corporate identity of the enterprise;
- (b) The establishment of its objectives in a long-term perspective;
- (c) The assessment of its strengths, weaknesses and resources;
- (d) Forecasting future development;
- (e) The understanding of the sensitive interrelationships between the enterprise and the environment;
- (f) The optimized synthesis of the plans of individual departments to reconcile conflict;
- (g) The development of a built-in system of performance evaluation;
- (h) The development of a "contractual relationship" with the Government.

As a result of the case study of BHEL, the Expert Group made the following observations:

- (a) This was a success story which indicated that there was cause for optimism and clear possibilities of performance improvement in public enterprises through the adoption of appropriate measures and methodologies and the creation of the right attitudes;
- (b) For a better appreciation of these possibilities it would be equally necessary to study cases of failures in order to identify the reasons for inefficiency with a view towards finding appropriate remedies;
- (c) The BHEL case, while endorsing the validity of the corporate planning approach, would also have to be interpreted in the light of other

considerations which were present, such as the availability of a competent and dedicated top management group, the sympathetic and co-operative attitude of the governmental authorities, the involvement and participation at all levels of management and workers, and the development of a positive atmosphere.

In the light of the BHEL case study, the Expert Group was of the view that it would be useful to promote the concept of corporate planning for public enterprises. In doing so, it was necessary to modify the standard approaches to corporate planning adopted by private enterprises in industrialised societies to make them applicable to the environmental conditions of public industrial enterprises in developing countries. Furthermore, the success or failure of corporate planning as an instrument of performance improvement would be determined by environmental conditions, in particular, the attitudes of policy-makers and the bureaucracy, and the ability to create an atmosphere of involvement, commitment and participation at all levels of management.

In advocating the corporate planning approach the Expert Group cautioned that public industrial enterprises should not seek to constitute themselves into business entities divorced from national realities. The corporate plans of enterprises would need to be sensitively dovetailed to national plans, regional plans and sectoral plans to ensure vertical and horizontal co-operation. Evidently, the mere adoption of corporate plans by themselves was no guarantee of improved performance and was no substitute for good management. There was clearly the need for concerted efforts to develop professional and managerial skills suitable to the parameters in which public industrial enterprises functioned. In this context the Expert Group recognised the significant role which programmes of training could play towards the upgrading of managerial and technical skills.

Finally, the Expert Group believed that the success of corporate plans in public enterprises would be determined by their sensitivity to

interlinkages with national external variables.

Interlinkages

The Expert Group felt that it was vital to appreciate the inter-relationships, interconnections and interlinkages which public enterprises had with external factors. It was necessary to identify these interlinkages to analyse their true nature and to develop a harmonious network of co-operative relationships. The framework of interrelationships included the following important components:

- (a) The most vital interlinkage was that which existed between the enterprise and the Government. The Group felt that the definition of this interlinkage would facilitate the management of public industrial enterprises. It was noted that the state played a dual role, first, as investor and entrepreneur and, secondly, as the promoter and protector of national aims and aspirations. The nature of the relationship implied defining explicitly the role of the Government which principally included the formulation of objectives, the provision of investment funds, the approval of investment decisions, the appointment of top management, directives in matters of national policy, the right to information and the monitoring of performance; The Group noted that while recognising the validity of these interventions of the state in the affairs of public enterprises, there was a tendency to "over-control" and to intervene in operational matters of management. It was felt that such an intrusion of the governmental authority would weaken the entrepreneurial capability of the enterprise. It was in this context that the question of autonomy and accountability needed to be examined;
- (b) The second category of interlinkages arose because of the inter-relationships existing within the family of public enterprises. The Group noted that public enterprises tended to be interdependent; the outputs of one enterprise often became the inputs of another

and there was a whole range of transactions between the public enterprises. The nature of this interlinkage clearly called for harmony in investments, production, marketing, price and organisation. Moreover, the success of any individual enterprise would be dependent on the success of others. The profitability of a given enterprise would be conditioned by the marketing policy of the supplying enterprise. The nature of these interlinkages gave rise to the necessity for systems of co-ordination. The Group noted that in actual practice, co-ordination between public enterprises had become a centralised function exercised at government level. It would be desirable to initiate a process whereby the interrelationships were determined by mutual consent and co-operation between the enterprises themselves;

- (c) In a sense the interrelationships between public enterprise was also reflected in the set of the relationships with the private sector. Here, again, there were commercial transactions, input-output relationships and other sensitive interlinkages. It was clear, therefore, that the two sectors were tending to be interdependent and the success of private enterprises would be influenced by the success or otherwise of public enterprises and vice versa. In defining the relationship between the public and private sectors, one could view them as complementary, supplementary or competitive. Of particular interest was the responsibility of public industrial enterprises towards small-scale industries in the private sector. The Group noted with satisfaction that public industries in some countries were attempting to foster and promote ancillary industries and downstream activities in the private sector, which were helpful towards the creation of a multiplier effect;
- (d) The fourth set of interrelationships was with non-commercial institutions, such as universities, institutes of management,

training establishments and associations of commerce and industry. This was an important interlinkage. The question which needed further examination was whether the public enterprises supported and conditioned the programmes of research and training institutions to make them more pragmatic and whether in turn the institutions influenced the enterprises in the right direction. Here, again, the Group recognised the significance of the training effort and the important advantages which could accrue through a harmonious relationship between the academic world and the world of practical management;

- (e) Finally, public enterprises were tending to develop a whole series of interlinkages abroad. These relationships were of great concern because they involved critical matters such as import of technology, capital equipment, training and consultancy, export of goods and services, joint ventures and collaborative arrangements with foreign partners. A potential area of international linkages was the possibility of regional industrial co-operation among public industrial enterprises and with private enterprises. An important area of external interlinkage was the utilization of foreign aid, either from multilateral or bilateral sources. The implications of aid and the conditions which might be attached to it could influence the direction public enterprises followed.

In noting this complex set of institutional interlinkages the Expert Group also recognised that public enterprises needed to develop a sensitive understanding of other interest groups, notably of consumers and clients, workers and trade unions, the environment, local communities and the interests of future generations. The policies and practices of public enterprises needed to be moderated by these legitimate interest groups, partly as a response to the discharge of social obligation, and partly as a measure of improving business efficiency. Ultimately, it would be

these interest groups which would determine the credibility of public industrial enterprises. Thus, consumer satisfaction, on one hand, would reflect the quality of goods and services and the reasonableness of prices; workers' satisfaction, on the other, would reflect the progressiveness of the public enterprise as an employer. Local communities and the environment would be indicators of the public enterprise contribution to social development, and finally, the long-term perspectives of public enterprise planning would affect in one way or another the generations of the future.

An efficient system of planning at the national level helped to identify, to take into account and to harmonize interlinkages. The ex ante analysis of interlinkages of different types could be a basis for co-ordinated measures in due time which reduced the cases of interventions in day-to-day operations of the public enterprises.

#### Performance Evaluation

From time to time throughout the deliberations of the Expert Group the question of evaluating the performance of public industrial enterprises, the development of criteria of evaluation and the setting up of evaluation mechanisms occurred. This was only natural because of the central importance of the question of performance evaluation. The entire system of public industrial enterprises and the drive to stimulate improved performance was absolutely dependent upon the evolution of an appropriate system of evaluation. This was undoubtedly a complex question because of the complexity of the institutional arrangement of public industrial enterprises, involving as it did a combination of business objectives and social objectives within the same organisation.

The Expert Group made an intensive examination of the question of evaluation, and came to the following conclusions:

- (a) It was recognised that any attempt to improve public enterprise performance needed to be supported by a set of evaluation criteria and an effective working mechanism of performance evaluation;
- (b) Despite this recognition which appeared to be self evident, the Group noted the ambiguities which surrounded this question in the developing countries and the evident lack of clarity in the designing of performance indicators;
- (c) Consequently, public enterprises were placed in the hapless situation of being judged by a variety of criteria and by a variety of interests with no organic connection to the management process;
- (d) Clearly, the starting point of developing a set of evaluation criteria would depend upon the clarity of the definition of objectives, and on the principle that performance was the achievement of pre-determined goals;
- (e) In designing evaluation criteria it was necessary to recognise that the simplistic yardsticks of performance in private enterprises, which largely concentrated on financial viability and profitability, were inadequate for public industrial enterprises because of their different nature.

With these background observations the Expert Group first examined the relevance of the criterion of financial success. This was the classical yardstick used for the success of a business firm and was reflected in return on investment and share values in the stock market. There was a tendency to under-rate the importance of financial criteria because of the social direction of public enterprises. The Group felt that this was not desirable. The evidence of the financial weaknesses of public enterprises and the heavy losses which they were incurring gave cause for concern. The losses of public enterprises had ultimately to be paid for from state exchequers and the pockets of the taxpayers. Since development required investment resources, the generation of surpluses



through the operations of public enterprises could itself be viewed as a social purpose. The Group also noted that there was empirical evidence to suggest that financially viable public enterprises tended to develop the necessary strength, morale and resources to undertake wider social obligations. It would appear therefore that there was no intrinsic conflict between the search for socio-economic objectives and the attainment of financial objectives.

Having recognised this, the Group was strongly of the view that the financial indicators were by no means sufficient for the purposes of evaluation. Financial success could measure efficiency but it could also result from market distortions and exploitative pricing policies such as those which resulted from a monopolistic position. Furthermore, the financial criterion, important as it was, did not reflect the true economic costs and benefits or the social purposes.

The second series of indicators, therefore, and one of considerable importance was that of productive performance. Here, the underlying idea was to ascertain how effectively the enterprise had utilised its invested resources in terms of the efficiency of the use of capital equipment, labour and materials. The classical indicators of capacity utilisation, consumption coefficients and labour productivity were available for this purpose. The evaluation of productive performance was of equal applicability to the private sector and could thus be the basis for meaningful inter-firm comparisons. In this context the Group felt that efforts were needed to develop productivity indicators involving all factors of production and not just one single factor. This was necessitated by the degree of capital or labour intensity in public industrial enterprises. When speaking of the effectiveness of public enterprises and their performance, the objective assessment of productive capability was a good starting point.

The Group noted that financial indicators as expressed in financial statements such as balance sheets and profit and loss accounts were

inadequate because they did not express accurately the real economic flow of costs and benefits. The technique of economic analysis, which was now widely practised, involved the correction of distortions and the establishment of accounting or shadow prices for various costs and benefits. This was particularly applicable to the cost of capital, the employment of labour, the earning of foreign exchange, the payment of taxes and the computation of external benefits generated through the enterprise's activity.

The same consideration applied to the question of social cost-benefit analysis. There were well-documented manuals on social cost-benefit analysis, notably those prepared by UNIDO, and the Organisation for Economic Co-operation and Development (OECD). These techniques were being extensively utilised for purposes of project evaluation and investment decision. It was necessary to extend the techniques further down the line to the evaluation of the attainment of these social objectives as an integral part of the total scheme of performance evaluation.

While recognising the relevance and validity of economic analysis and social cost-benefit analysis and the need to use these techniques more extensively in order to take appropriate decisions which reflected true costs and benefits, the Group was of the view that there were some inherent difficulties in these techniques, particularly in respect of the availability of adequate data on which they were based and the assumptions which needed to be made in fixing accounting prices. Furthermore, it was desirable that systems of performance evaluation should be really understood by practising managers, administrators and policy-makers, and that they should form an integral part of the system of management. This pointed toward the review of the techniques to simplify them and to convert them into practical instruments capable of everyday use.

There was a need to recognise the danger that the possible misuse of economic analysis and social cost-benefit analysis could provide a

cover for inefficient operation. This tendency needed to be guarded against. It was in this perspective that the Expert Group felt that an integrated system of performance evaluation would have to take into account all the relevant sets of indicators - financial, productive, and economic and social costs and benefits.

However, the Group recognised the limitations of exclusively economic or technical approaches in the face of objectives that included socio-political goals upon which substantial weight was often attached. It therefore placed importance on co-operation between technical experts and political decision-makers in evaluating performance, identifying weaknesses and recommending corrective action.

The Group also noted the paucity of reliable information on public enterprise performance. This not only hampered evaluation of economic performance but also drew attention to the danger that performance itself and the accountability of enterprises to the general public might be undermined by inadequate data flows. It therefore urged the importance of improving data flows as a positive tool of management, and for control and guidance in the public and the private sectors. The Group also held the view that for the sake of comparability, comparable information from private enterprises should also be available, particularly because much of the resource flow into the private sector was guided and guaranteed by the Government or a government entity.

The Expert Group noted that UNIDO had attempted to simplify its guidelines for project evaluation and was continuing a review of its work on the subject. The Economic Development Institute of the World Bank was also engaged in a similar work. It was hoped that the techniques of economic and social cost-benefit analysis would not be diluted in this process but would be strengthened and made more pragmatic through such reviews.

The Expert Group drew the attention of the developing countries to the significance of the question of performance evaluation and the urgent need, therefore, to develop criteria' relevant to the specific conditions in which individual public enterprises functioned, and to establish an objective and professional mechanism to undertake such an evaluation.

Appendix I

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PART TWO: THE POLICIES OF THE PUBLIC INDUSTRIAL  
SECTOR AND ITS IMPACT ON THE ECONOMY

Public industrial enterprises are important industrial actors in the developing world. In most developing countries key economic sectors - including key manufacturing branches - are populated by public enterprises. All the developing country based enterprises listed in Fortune's list of the 500 largest non United States industrial corporations in the world are public enterprises.

Yet relatively little attention has been paid to the strategies adopted by public enterprises and to the impact they have had on the level and structure of industrial development - much more is known for example, about the role and impact of transnational corporations. There is a need to examine the role and function of public enterprises as agents of industrial development.

Part two addresses this need. It begins by attempting to build a comprehensive and complete picture of the impact of the public enterprise sector in developing countries, based inter alia, upon a survey carried out by UNIDO. This survey made available evidence on the relative weight of the public industrial sector in national economies, the strategies and policies pursued by public enterprises, their contribution to industrial development and the major problems that they have encountered. Similar evidence is also presented for developed market economies by Javed Ansari and the centrally planned economies by Zoltán Román. It is hoped that the experience of the developed countries may provide useful reference points and a basis for illustrating the range of policy choices available to planners and top managers of public enterprises in the developing world. Finally, Tony Killick's detailed case study of the policies and impact of the public industrial sector in four sub-Sahara African countries is also presented. It is clear that the public enterprise sector has a role to play in African industrialization and priority ought to be attached to the task of constructing a viable data base on African public industrial enterprises.

CHAPTER I. CHANGING ROLE AND FUNCTION OF THE PUBLIC INDUSTRIAL  
SECTOR WITH SPECIAL REFERENCE TO DEVELOPING COUNTRIES  
- SURVEY OF MAJOR TRENDS -

by

UNIDO SECRETARIAT

A. THE SETTING

Public - private ownership in perspective

The role of the state in economic and industrial development expanded considerably in both developed and developing countries during the nineteen - seventies. In the developed market economies active state intervention has resulted from a combination of factors: monetary instability, inflation, rapid technological developments, adjustments in prices of energy, shifts in comparative advantages, growing unemployment and developments encountered in bringing about required structural changes. The state assisted the private sector in a positive manner in research and development. It has also taken "defensive" and "offensive" measures to prop up inefficient private enterprises through protectionism, quotas, non-tariff barriers and cartelization. In the developing countries, on the other hand, while the role of the state has continued to expand during the 1970s for well-known political, economic and social reasons, viz. the need for accelerated investments in infrastructure, need for control over basic and strategic industries (in the context of insufficient private entrepreneurship and capital), the need for access by the poor and disadvantaged to resources for industrialization, etc., there has been in many countries a perceptible attempt to move towards greater organizational efficiency, define more adequately the respective roles of the private and public sector and wherever an entrepreneurial class has developed, to encourage positively private ownership and management. The comparative roles of the public and private industrial sectors in



developing and developed countries have undergone significant changes over time reflecting the changes in the development philosophy and strategies adopted by prevailing governments from time to time.

The varying use of public industries as a policy instrument has resulted in greater interplay of public and private forces and in the blending of the role and function of public, semi-public and private manufacturing enterprises. This trend may no doubt be attributed to the fact that public manufacturing enterprises are inter-locked in a network of relationships that are both complementary and competitive to private industry. At one extreme public manufacturing enterprises merge entirely into government, both in terms of ownership and operations. At the other extreme they merge imperceptibly into private industries in the form of mixed ownership, where Government may hold majority or minority shareholding either directly through government acquisition and investment; or indirectly through investment or credit by public financial institutions. In some case Governments may exercise effective control of an enterprise with minority shareholding or with no equity at all. Moreover on the demand side private industrial enterprises may exclusively serve public demand under monopsony market conditions where the government is the sole buyer, a market form which exists in certain market economies. Thus the demarcation of boundaries between public and private industrial enterprises is not always clear, rather their roles and functions are blended in a variety of ownership structures, operational patterns, and interlinkages.

Public industrial enterprise: definition, function, characteristics

In this chapter the public industrial sector is viewed as being composed of enterprises that are predominantly owned or controlled by

the state (including partial ownership if this is sufficient to give effective control) and that produce and market manufactured goods. Wherever reference is made to national data or trends, however, the national definition of the public manufacturing sector/enterprise has been used for pragmatic reasons. Public industrial enterprises are commonly characterised by large size, technologically complex operations, large investments, long gestation periods and economies of scale. They often operate in natural resource based industries, mostly in monopolistic or oligopolistic markets. Moreover they usually enjoy a certain degree of protection from domestic and international competition and have generally preferential access to government services and finance.

This chapter sets out to provide a synoptic overview of the emerging role and function of the public manufacturing sector in the industrialization of developing countries and to highlight key aspects of their motivations; strategies and policies; their contribution to industrial development, and the achievement of national goals. An attempt is made to analyze the public industrial sector as an integral part of the economy with extensive linkages and interrelationships with other "productive agents" of industrialization.

The undertaking of a comparative inter-country survey of this nature is severely hampered by scarcity and inadequacy of statistical data, information and documentation. Where data and information do exist, it is seldom in a form that allows international comparisons on a consistent and uniform basis, let alone generalizations valid for public industries in developing countries. Yet an attempt has been made to collect statistical data and information from a number of developing countries, partly through questionnaire surveys of selected countries, and partly through secondary sources. These

limitations warrant a cautious interpretation of the findings reported in this chapter. There is need to improve the information base for analyzing the role of the public industrial sector, particularly in the developing countries.

B. MOTIVES FOR ESTABLISHMENT OF  
PUBLIC INDUSTRIAL ENTERPRISES

An assessment of the role of public industries in development requires an understanding of the circumstances surrounding their birth. Such an analysis facilitates understanding of their objectives, policies and performance. The genesis of public industrial enterprises has been from a combination of historical, economic, social and political motivations.

The motives for establishing public industrial enterprises may be categorized as follows. i) to compensate private sector inadequacies, ii) exploit monopoly, generate government revenue and achieve price stabilization, iii) obtain savings and foreign exchange and utilize aid, iv) control commanding heights of the economy and achieve national self-reliance, v) pursue a specific socio-political model of development and vi) generate employment, improve income distribution and stimulate regional development. In actual practise a variety of several motives simultaneously play a part in creating public industrial enterprises.<sup>1/</sup>

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<sup>1/</sup> For a comprehensive list of objectives for creating public industrial enterprises see: UNIDO Report of expert group meeting on the Role of the Public Sector in the Industrialization of the Developing Countries, Vienna, 14-18 May 1979, ID/WG. 298/15, para 18.

Private sector inadequacies

Many industrial investment projects in developing countries, especially large-scale, capital intensive, resource based projects in the fields of petrochemicals, iron and steel, fertilizers etc., require investment, technology, management and entrepreneurship beyond the capability or willingness of existing national private industrialists. Private entrepreneurs often refrain from investing in such industrial projects due to the magnitude of the investment required, the extent of risk involved, the long gestation period and the impossibility of quick returns. Private entrepreneurship is also chary of possible nationalization and of anti-monopoly measures. Moreover, in many developing countries the domestic capital market is inadequately developed to provide the capital required, at any rate without government guarantee. If for some reason foreign investment is excluded or assigned low priority in the national development strategy, the state emerges as the sole entrepreneur capable of mobilizing the resources required and willing to assume the risk associated with largeness. The emergence of public industrial enterprises due to entrepreneurial, managerial or financial inadequacies in the private sector has been a common motive for the establishment of public enterprises in most developing countries including i.a. Bangladesh, Bolivia, Brazil, Egypt, India, Panama, Sri Lanka and Sudan. In many cases the state has taken over ailing, sick, troubled, bankrupt, indebted or even abandoned industries, in an effort to preserve employment and mitigate the social consequences of the closing down of large industrial units.

Monopoly, government revenue, price stabilization

One of the most common reasons for public ownership in industry is that of the existence of "natural" and "fiscal" monopoly. Where

economies of scale are important, due to the size of the market and technological conditions, a situation may exist where only one enterprise can operate efficiently. Since profit maximization policy under monopoly implies restriction of output and/or high product pricing, there is justification for public ownership to maximise output and charge a reasonable price, while ensuring normal levels of return on capital invested. This argument is given added weight where commercial costs and benefits diverge from social costs and benefits. The Korean fertilizer industry is one example of a natural monopoly owned by the government where the Planning Board determines both the distribution price to the farmers and the transfer price from producer to distributor as part of overall agricultural development strategy.

In monopolistic and oligopolistic markets, a producer can make a "supernormal" profit. In order to offset this tendency many governments find it convenient to operate "fiscal" monopolies in the markets of inelastic consumer goods such as tobacco, alcohol, salt, sugar, etc.. The alternative would be private monopoly or oligopoly regulated through taxation. There is thus a clear revenue motive for operating government enterprises. For example, in Thailand, a state monopoly operates in cigarette and alcoholic beverages production.

A related motive is that government, through the price policy of state monopolies, may stabilize prices in an effort to contain inflation with associated implications for income distribution and purchasing power. For example, throughout the industrial and developing world, many governments used their state industries to dampen inflation by restricting price increase in key commodity markets during the 1970s.<sup>1/</sup>

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<sup>1/</sup> The Economist, 30 December 1978, page 39.

Saving mobilization, foreign exchange and aid

In many developing countries industrial enterprises have been established in the hope that they would make a contribution to the mobilization of domestic savings, generation of surpluses for reinvestment and generation of foreign exchange earnings through exports of processed natural resources, and attracting foreign investment. Moreover in many of these countries the tax administrative system may not have been in a position to mobilize the financial resources required for industrialization through taxation or investment incentives. A case in point is Sri Lanka where public industries were created i.a. to generate resources for achieving the goal of national economic development. In Bangladesh public enterprises were viewed as a potent tool for generating surplus and for mobilizing resources for socio-economic development.

Public industrial enterprises have been created, not only in the hope of generating resources, but in some developing countries they have come into existence to utilize expanding government resources. For example in many oil-producing developing countries of Western Asia<sup>1/</sup> oil revenues have provided the government with increasing economic power, which, combined with the desire for diversifying production structures, led to the creation of many public industrial enterprises.

A related motive has been suggested by Malcolm Gillis<sup>2/</sup> to the effect that lending activities of major donors of foreign aid and technical assistance agencies have been a factor in the creation of

1/ ECWA Secretariat: The public industrial sector in the ECWA Region. A Brief Review, UNIDO expert group meeting on the Changing Role and Function of the Public Industrial Sector in Development, Vienna, 5-9 October 1982. Conference Room Paper No. 9, page 7.

2/ The Role of State Enterprises in Economic Development, by Malcolm Gillis, Social Research, Summer 1980, page 64.

strengthening of public industries in some countries particularly in Africa and Latin America. Multilateral development banks have channelled portions of their resources through public enterprises rather than through private enterprises out of necessity because the banks required government guarantees and governments were at times unwilling to guarantee loans to private enterprises. Recently, however some multilateral development banks have placed greater emphasis upon private sector development. It is also noted that a substantial proportion of UNIDO's technical assistance activities to developing countries is being provided to the public sector either directly or indirectly.<sup>1/</sup> Moreover, bilateral assistance, particularly from socialist developed countries, has also been a contributory factor to the development of public industrial enterprises. Thus, for example, in Nepal and also to some extent in Sri Lanka many public industries were created with assistance of foreign aid programmes.

Commanding heights, natural resources, self-reliance

Certain branches of industries, especially those connected with the processing of natural resources play a crucial role in national development and are of strategic importance. Many governments prefer to exercise direct control of these key industrial sectors in order to use them for directing the economic and social development of the

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<sup>1/</sup> UNIDO, Industrial Development Board: The Public Sector and the Industrial Development of the Developing Countries, Report by the Executive Director, ID/B/238, 28 February 1980, para 28.

society. The commanding height justification has been a major motivation for public sector involvement in India and in certain periods also in Sri Lanka and Pakistan, Zaire and Zambia.

The quest for enhancement of national self-reliance following decolonization and independence in the late 1950s and 1960s motivated many developing countries to nationalize foreign interests. Since private domestic capital and skills seldom existed, the government became the sole entrepreneur prepared to take over or undertake large industrial investments. This motive contributed to the establishment of public industries in the Republic of Korea (1945), Indonesia (1957), Egypt (1957/1961), Algeria, Brazil, Ghana and others. More recently, some developing countries (Peru, Mexico) have nationalized foreign interests to gain more control over natural resource exploitation.

The foundation for the emergence of a public industrial sector in Africa was laid by colonialism itself which was highly interventionist.<sup>1/</sup> It was simple to extend the influence of the state from agriculture to mining and manufacturing both through the acquisition of previously foreign-owned concerns as well as through investments in newly created public industries. This trend was by no means confined to developing countries with a socialist orientation; in varying degrees it has been a near-universal tendency.

#### Specific socio-political model of development

An important motive for the creation of public industries has been the socialist countries' ideology of socialism. In

<sup>1/</sup> See: Tony Killick, The Role of the Public Sector in the Industrialization of African Developing Countries, UNIDO/ID/WG. 343/7, 10 September 1981, page 2.



centrally planned developing countries the State is assigned ownership of factors of production. Yet in most of these developing countries, industrial cooperatives, private small-scale industry and foreign investment are not negligible.

Changes in government have often led to changes in the role and function of public industries. These have assumed varying importance at different periods depending upon the social philosophy of the prevailing government. The enthusiasm for public industry was gradually substituted by pragmatism, and public industries inherited from a previous regime were at times divested.

In other countries the birth of public industries bears little or no relationship to ideological considerations. Otherwise it would be difficult to explain the existence of large public sector industries in economies like Brazil, or the Republic of Korea. In these countries other motives, especially economic, and pragmatism have contributed to the establishment of public industries.

This point may conveniently be illustrated by comparing the official ideologies of the Republic of Korea and India, which assign diametrically opposing roles to public ownership and control. Leroy Jones<sup>1/</sup> states that "In Korea, public ownership is viewed as a necessary evil; a role attributed to private enterprises in India. The public enterprise share in non-agricultural GDP is quite similar, if not identical, in the two countries." It is further stated that the Korean public enterprise sector has been shown to be surprisingly large considering the government's ideological orientation. The historical antecedent can explain only a fraction of the paradox; much more can be explained in terms of devotion to economic growth and

<sup>1/</sup> Leroy Jones, Public Enterprises and Economic Development, The Korean Case, Korea Development Institute, Seoul, Korea 1975 page 129 and 139. It is noted that this statement refers to the share of public enterprises in non-agricultural GDP. However the share of the public sector in manufacturing GDP (Korea 15.1) and output (India 19.0) is quite similar in the two countries.

the role of public ownership and control in overcoming various forms of private market imperfections. A similar paradigm exists in some private sector oriented developing countries in West Asia where the share of public sector in gross fixed capital formation is nearly as large as in the public sector oriented countries.<sup>1/</sup>

Employment, income distribution, regional development

Many governments of developing countries have regarded employment objectives as a major motive for establishing public industries with a view to creating new employment opportunities commensurate with economic growth or to preserving employment by means of taking over ailing private industries. In Sri Lanka, for example, public industries have been expected to generate greater and better employment and training opportunities while in Bangladesh they were expected to facilitate employment creation. The employment motive has been relevant in cases ranging from textile companies in India to cement plants and bicycle manufacturing in Bolivia.<sup>2/</sup>

Many developing countries have also entrusted public industries with special responsibilities in terms of contributing to improved income distribution in an effort to rectify imbalances between regions of a country or between social groups. This motive has been relevant in both Malaysia and Indonesia. In Bangladesh public ownership was considered a means of reducing inter-regional inequality of income and

<sup>1/</sup> The Public Industrial Sector in the ECWA Region - A Brief Review by ECWA Secretariat, UNIDO Expert Group Meeting on the Changing Role and Function of the Public Industrial Sector in Development, Vienna, October 1981, Conference Room Paper No. 9, page 2.

<sup>2/</sup> Malcolm Gillis, Op. cit., page 261.

interpersonal inequality as well as promoting growth with equity and employment and helping to reduce poverty. In general, however, these motivations have been of secondary importance. Only in a few countries is there any evidence of policies which consciously subordinate growth to egalitarian objectives.

C. REVIEW OF CONTRIBUTION OF PUBLIC INDUSTRIAL

SECTOR TO INDUSTRIAL DEVELOPMENT

Importance of public industry in different developing countries

In developing countries, officially designated as "centrally planned economies of Asia", which include People's Republic of China, the Democratic People's Republic of Korea, Laos, Democratic Kampuchea, the Mongolian People's Republic and Viet Nam, the public industrial sector identifies itself almost entirely with national industry. In these countries the public enterprise may constitute the most important part and instrument of the public sector. Thus in Mongolia, the public sector accounts for 97.4 per cent of total manufacturing output, the balance originating in the small scale co-operative sector. The public sector plays a predominant role in Iraq, Yemen D., Syria, Egypt, Bangladesh, Somalia and Pakistan accounting for more than two-thirds of total manufacturing investment. In Iraq, Yemen D. and Syria, manufacturing investment is almost entirely in the public sector (Table I).

Public industrial enterprises play an intermediate role in Mexico, Oman, Zambia, India, Venezuela, Sri Lanka, Tunisia, Turkey, El Salvador, Yemen A.R., Tanzania and Morocco. The share of the public sector in total manufacturing investment in these developing countries lies between one-third and two-thirds of the total.

Table I. Share of Public Manufacturing Sector in Total Manufacturing Investment, Value Added, Output and Employment in Selected Countries  
(latest year available)

Percentage Share	Share of Public Sector in Total Manufacturing			
	Investment	Value Added	Output	Employment
90-100%	Iraq (96.7) Yemen, D (96.1)			
80-89%	Syria (87.6)	Algeria (84.9) Pakistan (84.0)	Somalia (85.1)	
	Egypt (81.4) Bangladesh (80.2)			Algeria (81.0)
70-79%	Somalia (79.9)		Algeria (79.1)	Yemen, D (74.6)
	Pakistan (70.7)	Bangladesh (70.6)		Egypt (70.0)
60-69%	Mexico (65.0) Oman (64.9) Zambia (64.0)	Egypt (66.7) Sri Lanka (64.3)	Egypt (66.7) Sri Lanka (62.3)	Somalia (65.3)
	India (60.9)			
50-59%	Venezuela (59.6) Sri Lanka (55.3) Tunisia (53.7)	Syria (57.6) Zambia (51.0)		Nicaragua (59.0)
40-49%	Turkey (47.8) El Salvador (40.9)	Turkey (47.3) Iraq (41.5)	Burma (46.4) Yemen, D (44.9) Pakistan (40.0)	Tanzania (47.3) Zambia (42.5)
30-39%	Yemen, A.R. (39.0) Tanzania (39.0) Morocco (34.8) Brazil (33.0)	Tanzania (33.6) Mexico (29.8)	Nicaragua (34.0) Ghana (32.9)	Iraq (39.6) Turkey (35.2) Syria (33.8)
20-29%	Peru (25.3)	Senegal (21.1)		India (22.7) Pakistan (22.0)
10-19%	Ivory Coast (19.3) Nigeria (17.7) Guatemala (15.9) Jordan (12.0) Haiti (10.0)	Brazil (19.4) Korea, Rep.of (15.1)	India (19.0)	Burma (17.2) Mexico (14.4)
0-9%	Panama (6.2)	Thailand (6.5) Panama (3.7)	Thailand (3.5) Panama (2.5)	Sri Lanka (6.0) Thailand (2.3) Panama (1.3)
No. of Countries	27	16	12	17

Source: Appendix I

A limited role is assigned to public industries in Peru, Ivory Coast, Nigeria, Guatemala, Jordan, Haiti, Panama, Thailand and the Philippines. In these developing countries the public sector accounted for less than one-third of manufacturing investment.

The public manufacturing sector plays a predominant role in a greater number of developing countries in South and South-east Asia, West Asia, and Africa than in Latin America. It is also noteworthy that the public sector seems to play a relatively important role in oil-producing developing countries. This holds true for some developing countries like Iraq, Mexico, Algeria and Venezuela, but to a lesser extent for Nigeria and Indonesia.

#### Dynamic role of public industrial sector

Public ownership in industry is a relatively new phenomenon in the developing world. In Turkey and Mexico public industries were established in the 1930s; in China during the 1940s; in Bolivia, Indonesia and Egypt in the 1950s, and in most other developing countries during the 1960s and 1970s. In many of these developing countries, especially in Africa, industry itself is of recent origin.

In the course of this relatively short period, the role and function of the public industrial sector has been subject to significant change. In countries where investment figures were available for more than one year, mainly from 1970 onwards the analysis in Appendix II reveals that the role of public industry has been increasing in oil-producing developing countries like Iraq, Mexico, Venezuela, and also in Pakistan, Morocco and Brazil. In contrast, the importance of public industry has been decreasing in Bangladesh, Egypt, Yemen Arab

Republic, all developing countries where the proportion of public sector in total manufacturing investment previously exceeded 90 per cent. Thus in countries where the public industrial sector has already made a significant impact, the growth rate of public industrial investment tends to level off. In other developing countries such as Syria, Tunisia and also Sri Lanka the role of the public manufacturing sector has been fluctuating with no clear trend. For example, in Sri Lanka the strategic role assigned to the public manufacturing sector has changed practically with every new government elected during the last decade.

The relationship between the role of the public industrial sector and the stage of economic development may be illustrated by using as indicators the share of public sector in total manufacturing investment and GDP per capita. For non-oil producing developing countries, there seems to be an inverse relationship between the share of the public sector in total manufacturing investment and GDP per capita. Thus, apart from oil-producing developing countries, the role of the public industrial sector is predominant in countries with a low per capita GDP and its role is generally lower in countries with higher per capita GDP.<sup>1/</sup> (Appendix III).

#### Role of manufacturing within the public sector

There has been a substantial increase in the public sector as a whole in many developing countries. The prevailing pattern of development of the public sector in developing countries of the Asian

<sup>1/</sup> The major exception in this respect is the Syrian Arab Republic.

and Pacific regions reveals,<sup>1/</sup> firstly that public transport which was once the dominating infrastructural subsector appears to have reduced its relative position in most countries. In contrast the share of banking in public enterprises value added tends to increase in nearly all countries, indicating an increased investment of the state in this vitally important area. Thirdly the increasing importance of electricity in the composition of state enterprises reflect its greater investment in this sector following the energy crisis. Fourthly a steady increase in the importance of the public industrial sector, which is a subsector of the public sector, has been observed in India, the Republic of Korea, Pakistan and Sri Lanka while fluctuations occurred in Bangladesh and an actual decline occurred in both Nepal and Thailand (Appendix IV). In some countries the public manufacturing sector has become a dominant force within the public sector, notably in Bangladesh and the Republic of Korea with more than 46 per cent of all public sector activities and also in Sri Lanka where its share is 34.4 per cent. In other countries, this share lies between 14.9 per cent and 22.4 per cent. In Bangladesh, the Republic of Korea and Sri Lanka, manufacturing is the most important public sector activity; in India it ranks second; in Thailand and Nepal third; and in Pakistan fourth after transport, electricity and finance.

Significance of public industrial enterprises in different  
branches of industry

a) Capital goods industries

The relative weight of the public industrial sector varies significantly among different branches of industry. Information on

<sup>1/</sup> Public Enterprise and Industrialization in ESCAP Countries by ESCAP Secretariat, UNIDO Expert Group Meeting on the Changing Role and Function of the Public Industrial Sector in Development, 5-9 October 1981, ID/WG.343/12, page 20.

manufacturing valued added, output, investment, employment as well as size structure, covering consumer, intermediate and capital goods industries in selected developing countries is provided in Appendix V.

The importance of the public sector in capital goods industries is pronounced in most developing countries. In Algeria and Egypt, the share of public sector in total manufacturing output in capital goods industries was 92.7 per cent and 80 per cent respectively. The public sector plays a relatively important role in iron and steel industries and a moderate role in various machinery industries. There is thus some evidence that emphasis upon capital goods industrialization based upon backward linkages to the mining sector usually entails an emphasis upon public sector, but that its role generally decreases with higher stages of industrial processing.

b) Intermediate goods industries.

As a result of deliberate government policy public industrial enterprises tend to be concentrated in intermediate goods industries particularly petroleum refineries, petroleum products and chemical industries. For example, petroleum industries were practically all state owned in countries where such information was available (Appendix V). In Egypt, 79 per cent of total value added in intermediate goods industries originated in the public sector. This tends to point towards the fact that resource based industrialization usually entails an expanded role of the public sector both in terms of domestic demand and export oriented industrialization. This is most clearly evidenced by the crucial role which the public sector plays in the oil-producing developing countries. Further, as the Korean experience indicates, the public industrial enterprise typically exhibit high forward and high backward linkages with other industries.



c) Consumer goods industries

In general, the public sector does not seem to play a similar role in the production of industrial consumer goods apart from certain food products (sugar, salt, etc.) tobacco, beverages (alcohol) textiles and others. For example, in Brazil there are no public industrial enterprises producing consumer goods. In Egypt the public sector produced around half of the total manufacturing value added in the consumer goods sector. In Algeria, the share was higher. However, in Pakistan, Sri Lanka, Syria and Venezuela the role of public industry in most consumer goods industries is moderate. Thus, it appears that in most developing countries included in the sample the consumer goods industries is primarily the domain of private or co-operative industry, particularly small and medium scale industry. Concern with the provision of basic needs for industrial goods has not led to any major expansion of public industry. Rather, it seems that these have been established for the purpose of extracting government revenue in monopoly industries.

Review of public sector's contribution to  
industrial investment, value added and employment

The available data do not permit an elaborate analysis of capital/output and labour productivity coefficients. The data presented in Table I seem to indicate that public industries' share in manufacturing investment is considerably higher than its contribution to manufacturing value added, manufacturing output or to manufacturing employment. The difference is striking in the case of Iraq, where the share of the public sector to manufacturing investment was 96.7 per cent while its contribution to manufacturing value added was limited to 41.5 per

cent; judging from the figures, the public sector would seem to have made a modest contribution to employment creation in industry.

The data confirm that a high degree of capital intensity exist in the public industrial sector. This is the case in a number of developing countries including i.a. Bolivia, Brazil, Colombia, Ghana, India, Indonesia, Pakistan, Bangladesh and Sri Lanka. In the Republic of Korea the capital intensity in public manufacturing enterprises is more than double that of Korean manufacturing as a whole. The paradigm is epitomized in India and Brazil to the extent that "it is almost as if industries were divided between public and private enterprises according to their capital intensity".<sup>1/</sup>

The tendency towards capital intensive bias in public industries may be attributed primarily to the circumstance that a significant proportion of investment in public industry is concentrated in industrial sectors which would tend to be capital-intensive in any case regardless of ownership. Secondly, public industries tend to operate more in monopolistic and oligopolistic markets (than their private counterparts), where pressures for cost minimization is weaker than under competitive conditions. Thirdly, there may be a built-in inclination for public officials and managers to favour capital-intensive projects partly due to the conditions whereby foreign aid is channelled into industry. Moreover, the attractiveness of capital intensive investments in public industry is given added weight, due to the preferential treatment they receive, especially in countries where the finance sector is dominated by public financial institutions.

Most public enterprises fall within the category of large-scale enterprises (see Appendix V). The public industrial sector consists exclusively of large scale enterprises (more than 50 employees) in

<sup>1/</sup> John B. Shean "Public Enterprise in Developing Countries" in W.G. Shepherd ed. Public Enterprise: Economic Analysis of Theory and Practice (Lexington Books) 1976, page 221.

Pakistan, Sri Lanka and Egypt. In Venezuela and Nicaragua there is a small proportion of medium scale enterprises, in the former country mainly in the consumer goods industry sector. In Algeria, the situation is somewhat different with more medium sized industries than large scale industries and a limited number of small scale industries operating primarily in consumer goods industries.

To summarize the outstanding features of the major differences between public and private industrial enterprises, the experience of Pakistan<sup>1/</sup> may conveniently be used as an illustration. In this country the majority of enterprises in the public sector are large in size, of sophisticated technology and technical complexity, involving high capital investment and, in most cases, long gestation periods and low profit profiles. In comparison its private industrial sector has confined itself to comparatively simple, small and medium sized industries mostly producing consumer goods. The relationship between public and private industrial enterprises and their backward and forward linkages are of crucial importance for the achievement of balanced growth and for the success of both. To illustrate these interlinkages, the private sector in Pakistan is presently being vigorously encouraged to set up ancillary units to supply essential inputs for and down-stream projects to produce high value added products from the output of the country's first public sector integrated steel plant. This is of seminal importance as without down-stream industries the full benefit of such a large enterprise will not accrue to the economy. Besides, the private sector is especially well placed to set

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1/ A Survey of the Comparative Roles of Private and Public Industrial Enterprises - A Case Study of Pakistan, by Abid Husain, UNIDO/IS. 364, dated 21 December 1982.

up ancillary and down-stream industries and it simply does not make good business sense to try to develop these industries in the public sector. The role of promoting the development of ancillary and down-stream industries in the private sector appropriately devolves on the relevant public enterprises and may be vigorously taken up by them.

D. PUBLIC INDUSTRIAL SECTOR AS INSTRUMENT  
OF INDUSTRIAL POLICY AND STRATEGY

International development strategies for public industrial sector

In recent years various intergovernmental fora at the global level, industry sector level and regional levels have increasingly been concerned with the role that different ownership forms play in the national development of developing countries. The recommendations emanating from these international resolutions have implications for national policies and strategies for the promotion of public industries.

At the global level, the International Development Strategy for the Third United Nations Development Decade emphasized that "due account should be taken of the positive role of the public sector in mobilizing internal resources, formulating and implementing overall national development plans and establishing national priorities".<sup>1/</sup>

At the industry sector level, the Lima Declaration and Plan of Action on Industrial Development and Co-operation<sup>2/</sup> recongized the importance of ensuring an adequate role for the public sector in the

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<sup>1/</sup> Resolution 35/36 adopted by the General Assembly, 5 December 1980, (para. 31).

<sup>2/</sup> Adopted by the Second General Conference of UNIDO, 12-26 March 1975

expansion of industrial development of developing countries. The General Assembly of the United Nations recommended<sup>1/</sup> to take into account the role of the public sector in implementing the long-term strategy of industrialization. The Industrial Development Board of UNIDO adopted resolution 48(XII)<sup>2/</sup> on the role of the public sector in promoting the industrialization of developing countries. Subsequently the New Delhi Declaration and Plan of Action on Industrialization of Developing Countries and International Co-operation for their Industrial Development<sup>3/</sup> referred to the significance of the public sector in the redeployment of industries from developed to developing countries (para. 62).

At the regional level the Asian and Pacific Regional Development Strategy for the 1980's adopted by the thirty-fifth session of the Economic and Social Commission for Asia and the Pacific<sup>4/</sup> recommended that substantial autonomy for public industrial enterprises was necessary and feasible and stressed the need for them to have an adequate and efficient cadre of highly qualified managers.

In Africa, the Lagos Plan of Action specified the requirements for the achievement of industrial development. The Plan of Action emphasized that industrial development in each African country will depend on determination of the role of private, semi-public as well as public enterprises as instruments for the implementation of the

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<sup>1/</sup> Resolution 32/179 on the role of the public sector in promoting the economic development of developing countries, 19 December 1977.

<sup>2/</sup> Adopted by the Industrial Development Board at its twelfth session, 26 May 1978.

<sup>3/</sup> Adopted by the Third General Conference of UNIDO (21 January-9 February 1980).

<sup>4/</sup> Economic and Social Commission for Asia and the Pacific: Annual Report. 17 March, 1979- March 1980). Economic and Social Council. Official Records 1980. Supplement No.6, United Nations, New York 1980, E/1980/26.

Plan<sup>1/</sup>. In implementing the Lagos Plan of Action the public industrial sector is primarily viewed as playing the role of a manager of socio-economic change.<sup>2/</sup>

Outline of national strategies, policies and objectives related to the public industrial sector and other "productive agents" of industrialization

General characteristics of national strategies, policies and objectives

There is a great diversity and multiplicity of strategies, policies and objectives for development of public industry in developing countries, which may be either promotional, catalytic or developmental in character. Ideally the objectives should be defined at the national level commensurate with national strategies and plans; at the sectoral level to ensure harmonization, and at the enterprise level to guide management decisions. However, often these strategies are vaguely defined and have little relationship to the motives which led to the establishment of public enterprises in the first place.

For example while the public sector is assuming an increasingly important role in the industrialization of developing countries of Western Asia<sup>3/</sup> none of these countries have formulated a concrete strategy for the sector to render it an effective instrument in the process of economic and social development or has set-up appropriate

1/ Plan of Action for the Implementation of the Monrovia strategy for the Economic Development of Africa: Organization of African Unity, ECM/ECO-9 (XIV) Rev. I, April 1980. page 26.

2/ Economic Commission for Africa: The Public Sector and the Implementation of the Lagos Plan of Action, April 1981, E/CN/-14/807: E/CN.14ds/TPCW.11/24.

3/ The Public Industrial Sector in the ECWA Region by ECWA Secretariat, UNIDO Expert Group Meeting on the Changing Role and Function of the Public Industrial Sector in Development, 5-9 October 1981, Conference Room Paper No.9, page 16.

machinery to coordinate and control the activities of the sector. Here the question is not so much that the public sector failed to attain the aims and purposes which prompted its emergence. The absence of a well defined strategy made it virtually impossible for the public enterprise sector to make a significant contribution.

The problem of multiple, diverse and often conflicting or vaguely defined objectives is compounded by the complexity involved in choosing between them within the context of the national policy framework. However, as long as objectives are ranked and weighed to facilitate reconciliation of commercial and socio-political objectives, management theory provides sufficient tools to pursue multiple goals with efficiency.

In reviewing policies pursued by Governments for creating public industrial enterprise a distinction should be made between: (i) taking over existing enterprises and (ii) the establishment of new enterprises. While the taking over of existing enterprises does not by itself result in any expansion of industrial investment, the establishment of new industries through state entrepreneurship leads to the creation of new industrial capacities. Public enterprise may be inherited from a colonial regime, acquired by purchase or through nationalization.<sup>1/</sup> However newly established public industries rather than nationalized industries tend to contribute by far the largest share of total value added by public enterprises and, moreover their share tends to grow over time. The greater importance attached to newly established public enterprises has been observed<sup>2/</sup> in both developing market economies and centrally planned economies within the Asian and Pacific Region. In Pakistan, for instance, there had been 12 enterprises inherited, 5 fully nationalized and 77 taken over by the Government

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<sup>1/</sup> Nationalization as a legal act should be distinguished from socialization which is a process of introducing new methods of management and organization in nationalized enterprises.

<sup>2/</sup> Public Enterprises and Industrialization in ESCAP Countries by ESCAP Secretariat, UNIDO expert group meeting on the Changing Role and Function of the Public Industrial Sector in Development, Vienna, 5-9 October 1981, ID/WG. 343/12, 25 September 1981, page 7.

without acquiring majority shares, 6 acquired by purchase from private owners, 3 acquired by purchase of majority share by the Government, 2 abandoned by their private owners and 70 newly established, by 1975.

The establishment and acquisition of public industrial enterprises may lead to full, majority or minority ownership by the State. Governments of many developing countries have also acquired indirect ownership or multiple indirect ownership through investment by one or several public financial institutions or public industries. Further, governments have exercised effective control over enterprises even with minority shareholding or with no equity at all, through influencing the decision making process, either by factors internal to the firm, or by the external economic environment in which the firm operates. Thus due to the existence of a variety of mixed public-private enterprise forms and linkages it is difficult to gauge the Government's real involvement in an influence upon the industrial sector.

The indirect government ownership form in industry may be quite significant. Indeed in many developing countries, governments acquired substantial interest in financial institutions. For example the share of public enterprises in the finance sector (measured in terms of proportion of value added in GDP) was as high as 94.6 per cent in Sri Lanka (1974); 85.9 per cent in Bangladesh (1974); 67.5 per cent in Pakistan (1974); 48.7 per cent in Korea (1975); 25.4 per cent in India (1972) and 14.2 per cent in Thailand (1973)<sup>1/</sup>. Since financial institutions may have substantial shareholdings or rendered significant credit to private or semi-private industrial enterprises, the real involvement of government in overall industry may be very substantial. For example, in Trinidad and Tobago the Government owned 33 commercial enterprises, 13 majority owned enterprises and 18 minority interest companies in 1981<sup>2/</sup>. In Malaysia the government owned 82 public indu-

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<sup>1/</sup> Il Sakong: Macro-economic Aspects of Public Enterprise in Asia, A Comparative Study. Korea Development Institute, 1978 p. 47-50.

<sup>2/</sup> Includes both industrial and non-industrial commercial enterprises.



trial enterprises with 65 wholly-owned subsidiaries and 185 joint ventures.

There are important areas of convergence in the objectives and operational patterns of public, private and foreign enterprises, which are all interlocked in a network of interrelationships that are both complementary and competitive. The delineation of industrial strategies and policies between public, private and foreign enterprises has been a crucial component of industrial development strategies of developing countries, such as Bangladesh, Pakistan, Sri Lanka and Venezuela.

Changing economic, social and political factors have affected the role, function and organizational structure of public industrial enterprises and their relationship to other "productive agents" of industrialization. This changing strategic role and function of the public industrial sector may be illustrated by the experience of Bangladesh over the period 1972-78.

The following synoptic review of selected country-experience attempts to identify the varying roles assigned to the public industrial sector in national development strategies of developing countries with different socio-economic backgrounds. For this purpose the countries have been classified into those that are predominantly public sector oriented; mixed public-private sector oriented and predominantly private sector oriented, referring to countries respectively with a share of public sector in total manufacturing investment<sup>1/</sup> of more than two-thirds, between one-third and two-thirds and less than one-third respectively. This is a somewhat arbitrary but convenient criterion. However, it should be noted that if manufacturing value added was used as criterion instead of investment, more countries would fall into the latter country groups. The investment criterion has been chosen simply because it is available for a greater number of countries. A

<sup>1/</sup> Value added if investment figures not available.

summary review of major objectives and strategies for the public sector for selected countries is presented in Table II.

Developing countries with predominantly public industry environment

This group of developing countries includes the Syrian Arab Republic, Iraq, Egypt, Bangladesh, Pakistan, and Burma. A common feature is that the emergence of public industry was primarily based upon the commitment to promoting a socialist pattern of development. The function of the public industrial sector is primarily in the nature of entrepreneurial and managerial substitution. The enterprises were mainly acquired by means of nationalization of domestic and/or foreign enterprise. The cooperative and small scale industry sector remained important in terms of value added and especially employment but not in regard to investment. In countries where public industries have come of age, it appears that policies and strategies are gradually being adopted to take account of the potential role of private industry, domestic as well as foreign.

In the Syrian Arab Republic, the manufacturing sector was largely dominated by the private sector until 1964. In accordance with the new socialist policy, 108 industrial companies were nationalized in 1965-65. Since then, the country's economic policy has been increasingly geared towards a more direct control by the Government, with the major industrial tasks assigned to the public manufacturing sector. With the exception of some small-scale industries and workshops, most industrial enterprises in the Syrian Arab Republic are within the public sector. The Government has specified certain industries which were to be exclusively restricted to the public sector, including:

- (a) industries that use mineral resources in their production process;
- (b) industries that require large-scale production facilities where

Table II. Synoptic review of objectives and strategies for public industrial sector-selected countries

Country	MAJOR MOTIVE					
	General and Socio-political motives 1	Commanding heights strategic industries natural resource exploitation. self-reliance 2	Employment, Income distribution and general welfare 3	Government revenue savings mobilization foreign exchange 4	Industrial growth efficiency, performance and technology 5	Relation to private sector domestic and foreign 6
Botswana		Public participation in major industries of strategic importance to the nation				
Brazil		To preserve Brazilian control of public and politically sensitive sectors				To engage in activities that private enterprises are either unwilling to tackle or unable to finance.
China, People's Rep. of	Develop socialism to be built on the foundations of mass social production		To satisfy to the greatest extent possible the people's material and cultural needs			
India		To control "commanding heights" of the economic and strategic areas which by their very nature cannot be entrusted to private hands	To remove regional imbalances  To remove sectoral imbalances			To countervail power of large enterprises in the private sector and reduce concentration of economic power  To build-up the necessary infra structure for the growth of industries specially where private capital is shy of heavy investment  To engage in activities that private interests are either unwilling to tackle or unable to finance
Malaysia	To restructure the pattern of ownership in industry state enterprises will be turned over to Malay and other indigenous ownership and management as soon as possible		To promote economic development in the less developed areas and thus help redress regional economic imbalances			To provide training and ensure that viable progress are made available to prospective private indigenous entrepreneurs
Mexico		To protect national sovereignty and propitiate the rational exploitation of natural resources	To promote regional development and industrial decentralisation	To improve the country's commercial balance	To promote scientific and technological development  To provide basic inputs for industrial development at lower prices	To rehabilitate private enterprises which are poorly managed and in bankruptcy

Table II. (contd.)

	1	2	3	4	5	6
Mexico (contd.)			<p>To improve the standards of living of the rural sector through the regional exploitation of natural resources and job creation</p> <p>To protect the populations acquisitive power offering basic foods at lower prices</p>		To promote the development of capital goods industries and to carry on with the process of import substitution	
Mongolia	Further development of social production		Continuous growth of material well being and cultural level of the people		Increasing effectiveness and improved performance	
Mozambique, Republic of	Establish appropriate economic order, priority and structures, as well as establish economic development and management as a centrally planned economy					Semi-official enterprises or joint ventures between public private sectors
Nigeria	Ensure the promotion of a planned and balanced economic development	Manage and operate the major sectors of the economy	<p>Control the national economy in such manner as to secure the maximum welfare, freedom and happiness of every citizen</p> <p>Protect the right of every citizen to engage in any economic activity outside the major sectors of the economy</p> <p>Ensure that the economic system is not operated in such a manner as to permit the concentration of wealth or the means of production and exchange in the hands of a few individuals or of a group</p>			
Pakistan	Making the controllers of the means of production accountable to the Government	Exploitation of natural economic resources for the maximum advantage of the common man	<p>Broad-basing the benefits of economic development and administration</p> <p>Equitable distribution of wealth and economic power</p> <p>Safeguarding the interest of small investors</p>			

Table II (contd.)

	1	2	3	4	5	6
Senegal		To establish national control over key sectors especially those involving important national resources	To create high quality job opportunities for Senegalese in the modern sector of economy	To maximise foreign currency earnings for reinvestment within Senegal by taking large positions in major export enterprises	To acquire new technology and managerial expertise from abroad and from the domestic private sector  To develop an organizational structure which is more flexible than governments administrative services	To promote development in promising areas where private initiative has proven insufficient  To provide infrastructure credit, research, promotion and other vital factors in order to promote faster economic development, especially in partnership with the private sector  To attract foreign financing which sometimes prefers to channel its funds through para public institutions rather than through the public administration
Sri Lanka	To discourage concentration of economic power	To utilize the economic resources of the country	To provide maximum employment opportunities  To advance the regional development of the country		Paying critical attention to the improvement of the management functions  Viability of the public industrial sector	To commercialize activities that have been run by the Government  To undertake tasks beyond the capacity of the private sector and other enterprises  To take over the management of ailing private sector firms  Removing protection and state monopolies  Encouraging foreign collaboration investment and participation
Thailand		To support state enterprises which are strategically important				To support state enterprises involving large investment or high level of technology in which private enterprises are reluctant to enter
The Somali Democratic Republic	Establishing new publicly owned industrial enterprises				Increasing the efficiency and profitability of existing public enterprises	Promoting industrial co-operation, industrial estates and establishing industrial joint ventures with foreigners

Table II. (contd.)

	1	2	3	4	5	6
Viet Nam	To carry out socialist industrialization					
Yemen A.P.						Emphasis on the organisation of mixed ownership companies
Yemen P.D.R.	Increased involvement of the public sector in the process of industrialization and emergence of public and mixed sector industries					
Zambia	To ensure realization of industrial Participatory Democracy in all public sectors undertakings		<p>To institute comprehensive training programmes for their manpower development thereby increasing operational efficiency</p> <p>To expand and diversify their operations so as to satisfy the ever increasing needs of the people through local production, and thereby create more employment opportunities for the local labour force</p>	<p>To generate adequate surpluses for future expansion and new investments</p> <p>To contribute to foreign exchange earnings by actively participating in export promotion and import substitution industries</p>	<p>To further strengthen the position of the public sector in the national economy by improving the sector's overall economic performance</p> <p>To encourage agro-industries, create industrial and manufacturing opportunities and make full use of local raw materials in their existing and future production operations</p>	

products are largely standardized in nature; and, (c) industries that produce basic commodities for the domestic market, as well as industries that produce products of strategic importance, such as sugar refining, cement production, cotton and wool spinning, fertilizer manufacturing and a variety of heavy engineering industries.

The Government has been attempting to promote private sector activities since 1971. An indicative list was issued in 1971 identifying the branches of industry in which the private and mixed sectors were allowed to operate. The list identified 110 items of industrial commodities which the private sector is allowed to produce. Currently, the private sector in the Syrian Arab Republic enjoys an exclusive role in numerous manufacturing activities which produce final consumer goods and coexists with the public sector in a number of activities, including plastics, light metal industries, clothing, textile weaving, shoes and soap.

In Iraq government ownership in manufacturing was rather small until 1964 and mainly confined to oil refineries and a few large establishments. The far reaching nationalization measures in 1964 placed all large manufacturing enterprises under government control. Public ownership became a dominant feature of the Iraqi economy. The public sector remained active in small establishments and small workshops. Important changes have however occurred in the government's attitude over the last few years. It has reportedly become more interested in the development of the private sector.<sup>1/</sup>

In Egypt the public sector emerged through nationalization in 1957 and dominated the manufacturing sector until the mid-seventies. The introduction of the "open-door" policy in the late 1970s was aimed at the enhancement of the roles of the private and foreign sectors. The public sector is gradually being reorganized to enable it to function on a commercial basis. Thus the major component of

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<sup>1/</sup> The Economist, 6 June 1981, page 16 (Survey).

the policy and strategy of the industrial programme for 1980-84 is to restrict the participation of the public sector, and to strengthen and deepen the policy of an "open-door" economy. This implies concentrating mainly on the expansion of joint projects with foreign partners which is considered the best means of renovating industry and for reducing the deficit in the balance of payments.

In Bangladesh the establishment of a socialist economy implied that public enterprises were to perform an entrepreneurial function previously assumed by the private sector. The public sector became the dominant sector in industry after nationalization in 1972. A limit was set on the size of individual units in the private sector, which was not allowed to collaborate with foreign private enterprises. Later the ceiling on private sector units was increased and collaboration with foreign private sector allowed. The areas of investment reserved for the public industrial sector was originally set at 18 but later reduced to 8 sectors. Under the influence of private interest groups and political factors, the previous policy has been further modified by allowing private enterprises majority holding in joint ventures and lifting the ceilings on private industry units on a case by case basis.

In Pakistan the manufacturing sector was predominantly private until 1971. After 1972 a commitment to socialism led to the manufacturing sector being dominated by public industries. The emphasis on the public industrial sector was reversed in 1977 when measures were taken to decentralize and return public industries to private ownership. At the same time major efforts were made to invigorate the private sector as an instrument of industrialization and economic progress. This new policy is reflected in the Fifth Five Year Development Plan 1978-83 which seeks to achieve restriction of public investment to ongoing projects and a substantially increased role of the private



sector in industrial development. In the current Plan the role of public sector industry will generally be confined to modernization and balancing of capacity. Notwithstanding the new sentiment in favour of private industry, the public industrial sector has retained its role as a major vehicle of industrial development.

Since 1963 the state sector in Burma was intended to become the dominant force in manufacturing; private industry has been allowed only under various limitations and controls. The public sector is overwhelmingly represented in the heavy industry and capital goods sector and is therefore able to control the pattern of accumulation and the provision of inputs to the private sector. Basically the public sector is reserved for industries using imported raw materials while private enterprises operate in industries using local inputs.

Developing countries with mixed public and private industry environment.

These countries include i.a. Venezuela, Sri Lanka, India, Mexico, Zambia and Tanzania. The most salient feature of policies and strategies is that the role of public, private and foreign industry are usually enunciated with greater clarity than in other countries, and that greater emphasis is given to viability and efficiency of the public industrial enterprises.

In Venezuela<sup>1/</sup> the National Development Plan contains coherent strategies, consistent guidelines and policies and sets out clearly defined objectives ranging from the overall sectoral level to the public enterprise level. However, they lack adequate machinery for ensuring that the declared objectives are given operational effect and coincide

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1/ UNIDO/IS.381, The Public Sector and the Industrialization of Venezuela,  
27 April 1983.

with the aims actually being pursued in manufacturing as a whole whether State, domestic, private, mixed or foreign.

Despite the expectation of the Sixth Five-year Plan, 1981-86, that the private sector would play the leading role in Venezuela's industrial development, the major portion of industrial investment originates in the public sector which has been growing rapidly. It accounts for the major portion of manufacturing value added and exports and has played a key role in the establishment of basic industries.

The public industrial sector does not operate very efficiently. Many enterprises make large losses. Thus in 1979, the iron and steel industry (SIDOR) made a loss of Mbs 966,000 and the aluminium industry (ALCASA) made a loss worth Mbs 44,943. There are few indicators that efficiency is improving over time.

The spread effects of public industrial growth remain limited due to the weak linkages of this sector to small-scale enterprises. Public enterprises have however made important industrial innovations and have developed useful links with foreign public and private enterprises. This may have a pronounced impact on their operational efficiency in the future.

Sri Lanka is perhaps unique among developing countries, in that the role of the public industrial sector has undergone significant fluctuations with every change of government since 1956. By the mid-seventies every important facet of the economy came to be dominated by the public sector while the private sector was assigned diminishing role except for small and medium industries. In 1977 the government reversed its policy and sought to reduce the dominant role of the public sector. A rapid privatization of the public sector was expected.

According to the current national economic development plan of Sri Lanka, the public industrial enterprises are expected to show an adequate return on capital. The development strategy also emphasizes improved resource utilization, managerial efficiency and to this end

encourages foreign collaboration agreements. According to the plan public industrial enterprises will not be expected to extend to any new areas.

Public industrial enterprises were also required to compete on equal and non-discriminatory terms with the private sector and monopoly power of public industrial enterprises was dismantled. They were also made to face a fair degree of import competition. Thus public sector efficiency was sought to be enhanced by creating competitive conditions and not by effecting bureaucratic controls.

Public industries in Sri Lanka were also encouraged to engage the services of professional managers. To bring about more harmonious Labour relations, worker representation on the Boards of Management was instituted by appointing worker Directors in most enterprises. The problems related to inadequacy of skilled personnel were partly expected to be reduced through emphasis on training in collaboration agreements between public and foreign enterprises.

In India the adoption of a socialistic pattern of society in 1954 further enlarged the role of the public sector in the mixed economy framework. The role of the public industrial sector has increased continuously, commensurate with industrial progress. The Industrial Policy Resolution of 1956 classified industries into three categories: 1) Industries which would be the exclusive responsibility of the State (17); 2) Industries which would be progressively state owned but in which private industries would be expected to supplement the efforts of the public sector (12); and 3) other industries. Emphasis has been placed on complementarity of the public and private industrial sectors on the assumption that the private sector accepts the broad principles implied in the national development plans. An important

emphasis is given to the inter-relationship between small-scale and large-scale enterprises. The new Industrial Policy Resolution adopted in December 1977 refers to the role of the public industrial sector as follows:

"The public sector in India has today come of age. Apart from socialising the means of production in strategic areas, the public sector provides a countervailing power to the growth of large houses and large enterprises in the private sector. There will be an expanding role for the public sector in several fields. Not only will it be producer of important and strategic goods of basic nature but it will also be used effectively as a stabilising force for maintaining essential supplies for the consumer. The public sector will be charged with the responsibility of encouraging and developing of a wide range of ancillary industries, and contribute to the growth of decentralized production by making available its expertise in technology and management to small-scale and cottage industries sectors. It will also be the endeavour of Government to operate public sector enterprises on profitable and efficient lines in order to ensure that investment in these industries pay an adequate return to society."

This is a statement of policy adopted after public sector undertakings have come of age. It signifies a reorientation of its role after the role earlier assigned to the public industrial sector has been more or less fulfilled.

In Mexico, the industrialization strategy is based upon the long-term goal of shared development among public, private and labour sectors and vitalization of the mixed economy system. The public industrial sector is strong in some strategic branches. Mexico is a good example of a developing country seeking a resource based

industrialization which is in the process of switching from a domestic demand based to an export orientated development strategy. The public industrial sector co-ordinates its activities with the private sector which has a major role in national industrial production. The present strategy of shared development is to establish a new set of relations and ways of co-operation between private and public sectors.

In Zambia, the public sector has also been of considerable importance. In 1968 the 'Mulungushi reforms' implied that large-scale enterprise became the reserve of the state and small-scale industries would be open to the private sector. Throughout the period 1968-1974 nationalization and take-overs accelerated. However, there have been few new take-overs since 1974.

As a consequence of these policies, the public sector has come to dominate the industrial and commercial sectors. By 1972 the public sector owned over 62 per cent of total fixed assets in manufacturing. However, the indications are that there may have been some relative decrease since 1972. Most state enterprises in the manufacturing sector are the responsibility of the Industrial Development Corporation (INDECO) which is a holding company and a subsidiary of the Zambia Industrial and Mining Corporation (ZIMCO), an umbrella organization responsible for most public enterprises in all sectors of the economy.

In Tanzania an important change took place with the adoption of the 'Arusha Declaration' of 1967 in the public sector. Until then the government had relied mainly on the indirect encouragement of industry. The Arusha Declaration placed increased responsibility on the public sector to engage in productive investment in industry. Industrial development was to be based on a re-organization of ownership

forms and the private sector was limited to small and medium sized economic activities and to joint ventures with the Government. This policy quickly resulted in the nationalization of several industrial concerns and the compulsory acquisition of up to 60 per cent of the shares of a number of others. A National Development Corporation was established to consolidate the institutional foundation for socialistic development. So great was the emphasis on the public sector that the Plan published in 1969 intended that only 12 per cent of total manufacturing investment should come from private enterprises, and only slightly larger proportions of new manufacturing output and employment. There was nevertheless a very rapid expansion in the years after 1960. From about 1972-74, however, the pace of public sector expansion slowed down.

Developing countries with a predominantly private industrial environment

Included in this group are developing countries like Rep. of Korea, Indonesia, Nigeria, Senegal, Ghana, Nepal, Thailand, Saudi Arabia, and the Philippines. Public industries in these countries are primarily established due to private sector inadequacies, and as a means of extracting surplus government revenue in monopoly industries. There is a tendency towards denationalization and divestiture of public industries to the private sector. The strategic framework for the role of the public sector is commonly vague. The role of the public industrial sector is mainly of an entrepreneurial supportive nature rather than that of entrepreneurial or managerial substitution.

A well known paradox in the development of the Republic of Korea<sup>1/</sup> is that notwithstanding a policy of commitment to private enterprise development, the public sector has been extensively used. This would tend to point to the economic justification of public industrial enterprises. In fact, during the period of rapid economic growth, public enterprises constituted a "leading sector" in the sense that they grew substantially more rapidly than the economy as a whole and identifiable linkages existed whereby growth was transmitted to other sectors. Public enterprises are characterised by output market concentration, high forward linkages, high capital intensity, large scale operations and production for import substitution rather than exports. The rise and growth of the public sector in the Republic of Korea is explainable in terms of the Government's growth oriented pragmatic approach to overcoming some of the market imperfections in the course of development. Public enterprise is viewed as a tool for dealing with these problems and is generally considered more efficient than its counterpart in other developing countries albeit less efficient than its private counterpart in the Republic of Korea.

In Indonesia, the Government enunciated its policy towards the public industrial sector in the Third Five-Year Plan, 1979-1984, (Repelita III). The Plan stipulates that public resources will be used to assist the implementation of programmes emphasizing the equity objective covering industries which are labour intensive and fulfil basic human needs (textiles, buildings materials for low-cost housing construction, pharmaceuticals, paper, small-scale, village and home industries). On the other hand, programmes emphasising growth objectives which are in general capital intensive (chemical, steel, transport equipment etc.) will have to rely on private domestic and foreign

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<sup>1/</sup> This review is based upon: Leroy Jones and Il Sakong, Government, Business and Entrepreneurship in Economic Development: The Korean Case, Cambridge, 1980, p. 297-298.

sources. For this purpose state enterprises are now encouraged to form joint-venture enterprises with foreign partners in the expansion and further development of their enterprises.

In Nigeria<sup>1/</sup> there is recognition of the important role of the public industrial sector in the development process and of the right of government to participate directly or indirectly in economic activities. Industry is a relatively new phenomenon in Nigeria and the public industrial sector itself is in its infancy with no more than a decade's history. Many of the large and strategic public industrial enterprises are still at the construction stage. The substantial increase in government revenues from petroleum brought about impressive growth in public sector investment in manufacturing in the 1970s, though the contribution or impact of the sector cannot be easily assessed. Certain strategic industries have been reserved for direct public sector ownership including petro-chemicals; petroleum products exploitation, refining and distribution; fertilizers; iron and steel; machine tools; liquified natural gas; cement production; and vehicle assembly plants. The focus and size of public industrial sector reflects not only the importance but also the capital intensive nature of strategic manufacturing activities. The public sector has stimulated a deliberate entry into the intermediate goods sub-sector of the economy. Nigeria has joined in the outcry about poor public enterprise performance and in the serious and continuous search for practical solutions to the managerial problems.

In Senegal, state participation in the manufacturing sector has grown rapidly in recent years. There has been a decline in the real value of private-sector investment in the early 1970s. This led to an expan-

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1/ The Role of the Public Industrial Sector in Nigeria's Development  
by Udo Udo-Aka, UNIDO/IS. 363, dated 14 December 1982.



sion of state involvement, mainly within mixed enterprises. In 1975, the latest year for which data is available, there were 19 new mixed enterprises in the country, of which half were less than four years old. There were 20 public enterprises and mixed enterprises by 1974 in manufacturing. Their share in total sales and value added was 25 per cent and 20 per cent respectively. This contribution grew rapidly during the 1970s. Public sector investment accounted for almost half (48 per cent) of total investment in the modern sector. It was however, heavily concentrated in a small number of large mixed enterprises. 94 per cent of the total value added in the public sector originated in 20 enterprises in 1974. The largest of these were located in phosphate mining and groundnut marketing, not in manufacturing where the share of public enterprise in value added was only 12.4 per cent.

In Ghana, an Industrial Development Corporation was set up to invest public money in industrial enterprises before independence. The process of public sector development was accelerated during the first half of the 1960s. For 1968 it was estimated that the public sector contributed 26 per cent of the GDP. Some minor PEs have been sold to private owners in the later 1960s, but new PEs have been added, so that the number of PEs in manufacturing is today rather larger than fifteen years ago. Most of these are grouped in the Ghana Industrial Holding Corporation.

In Nepal, the Fifth Plan (1975-1980) stipulated the policy towards the public sector which was expected to play a predominant role to accelerate production while the private sector was made complementary to the public sector. The driving force behind the establishment of public industries has been the provision of bilateral aid for turn-key projects. The Government has partly played an entrepreneurial support role to the private sector (tea processing), partly an entre-

preneurial substitution role (pharmaceutical industry), while in others (jute and cement) the motive for the establishment of public enterprises was to gain control in order to generate greater social welfare. In the Sixth Plan (1980-85) the main emphasis has shifted towards the development of cottage and small industries.

In Thailand, Government policy specifies certain industries which are preferred for operation under government ownership or equity participation. These include: i) industries related to national security, price stability, anti-monopoly or natural resource preservation; ii) certain competitive industries which may be a means of implementing government policies; iii) industries which have a significant impact upon the economy (e.g. petroleum) and iv) industries which require specific technology, know-how and large capital investment beyond the capability of domestic private enterprises.

In Saudi Arabia, it is the policy of the Government to promote the private sectors' activity within a market oriented economy. The rationale behind governments direct involvement in public industrial enterprises is mainly due to the absence of interest and ability of local enterprises to undertake industrial investment projects. The Government has announced its intention to relinquish its share in the enterprises except those relating to national security, wherever the private sector shows interest in such projects. Industrial investment undertaken directly by the Government is concentrated mainly on large scale projects that are beyond the capacity of the private sector. Most of the non-oil manufacturing establishments are left to the private sector. In all cases the Government conducts its policies in a manner that establishes its position as a partner rather than a competitor to producers in the private sector.

The present strategy of the government of Brazil<sup>1/</sup> as to public enterprises is towards accelerated privatization. The creation of new

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<sup>1/</sup> See The Role of the Public Industrial Enterprise in Brazil, UNIDO/IS. 357, dated 7 December 1982.

public enterprises is forbidden. The privatization of a large number of existing governmental companies is envisaged. According to the new policy, public enterprises must be restricted to essential economic activities of infrastructure and key industries. Presently, almost 80 per cent of all investments made by the 200 largest enterprises in Brazil belongs to public enterprises. In one of his first speeches as president-elect in January 1979, the present President of the Republic said: "I recommend to the Ministers that all necessary measures are to be proposed for the privatization of public enterprises excepting those strictly indispensable to corrections in the market system or to attend national security reasons".

The Philippines economy is mostly in private hands. State direct involvement has traditionally been very limited not only in the industrial sector but also in sectors which are usually mostly public such as infrastructure and utilities.

#### Co-operation among public and private industrial enterprises

There has been significant growth in co-operation between public and private industrial enterprises at the national and international level in the form of joint ventures in a number of important industrial areas. This new development underlines the growing inter-play of public and private industrial enterprises which are becoming increasingly interdependent. The reasons for this increasing interest are fourfold<sup>1/</sup>.

- a) Governmental participation through subscriptions to equity capital is intended to activate local entrepreneurship, by creating confidence among the investors in the prospects for success of the enterprises concerned.

1/ Survey of Changes and Trends in Public Administration and Finance for Development, 1975-77, United Nations 1978 (E.78.II.H.7), p. 67.

- b) the Government wishes to invite private investment in public enterprises in order to acquire the management skills characteristic of private enterprises.
  
- c) the Government may desire to spread its limited investment resources over a large number of enterprises by subscribing to their equity on a partial basis.
  
- d) where an enterprise has to be sponsored in the national interest but is not likely to stay in the public sector over a long period of time, the Government may wish to invite private investment on a joint basis, so that, in the course of time, full transfer of governmental share capital may be effected in a smooth manner.

This new breed of public industrial enterprises reflects a novel pattern of relationship between the State, domestic private industry, and transnational corporations. Due to disenchantment in earlier years with joint ventures between foreign and domestic private enterprises, governments of many developing countries increasingly favour new forms of co-operation whereby the state itself becomes an active partner in industrial activities. This new form of public enterprise has emerged in a number of developing countries such as Brazil, Egypt, Peoples' Republic of China, Ghana, Indonesia, Kuwait, Mexico, Nigeria, Senegal, Sudan, Tanzania, Thailand, Venezuela, Viet Nam, and several Arab countries. The mechanism provides significant benefits to government in terms of access to foreign technology, capital, management skill and export markets, without relinquishing management influence. It is a way of protecting national interests from potential damage by commercially oriented foreign investors. From the point of view of the transnational corporation this form of co-operation is attractive since it involves

association with a partner who influences the economic climate in which the enterprise operates (taxes, import quotas, competition, etc.) and which is perceived as a means of reducing the political risk of operating in a foreign country. The increasing trend towards joint-ventures has been reflected in national policies and strategies and may be illustrated by the experience of selected developing countries.

The petrochemical industry in Brazil is illustrative of a special joint venture form where the State entered as an entrepreneur with sufficient resources to co-operate as an effective partner with domestic private industry and transnational corporations in promoting an industry that required large capital resources and advanced technology. The industry is characterized by a unique trilogy of state capital, domestic private capital and transnational corporations that are bound together to form a single interdependent corporate system. The public sector initially entered the industry in the 1960s not because it was anxious to take over the petrochemical industry but because private industry was anxious to gain its participation. The preferred investment formula has been one third government, one third local capital, and one third foreign investment. In several cases, however, the inability of local private partners to meet expansion needs has led to the emergence of the government in majority role.

In Mexico, the Administration formulated a strategy of shared development which defines responsibilities and gives confidence and security to private sector investments. The Alliance for Production Programme is a planning effort where the Government has endeavoured to establish a new set of relations and ways of co-operation between private and public sectors.

In Egypt, the 'open door' policy introduced in the 1970s increased the autonomy of public industries and led a significant number of public sector companies to strive for negotiating joint venture

agreements. In fact joint venture projects have been given particular priority in the industrial programme of the Ministry of Industry and Mines and represents a sizeable portion of the total capital investment of the Ministry's industrial programme for 1980-1984.

A similar trend has been observed in Tanzania where joint ventures between Tanzania public sector industry and private foreign investment is regarded as being of particular value in facilitating the transfer of technology and in training Tanzanian personnel.

Another version of the joint-venture approach is co-operation between a public industrial enterprise of one developing country with its counterpart(s) in another within the framework of regional co-operation. Under this form the public industrial enterprise itself would become transnational in nature. The role of public industrial enterprise in the context of the ASEAN regional industrial co-operation scheme is a case in point. The governments of various ASEAN countries have committed themselves to a programme of industrial co-operation. A first set of joint venture projects were negotiated at the Bali Summit in 1976. Subsequently other projects have been identified. The projects were envisaged to be set up as public enterprises in view of their scale of operation, capital intensity and high risk element. Malaysia and Indonesia have decided to proceed with their regional projects, - both urea fertilizer projects as public enterprises. While these industrial projects are expected to provide an important impetus in the long-term, it is envisaged that the greater portion of the ASEAN Industrial Programme would be implemented by the direct efforts of the private sector in the member countries<sup>1/</sup>.

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1/ ASEAN Co-operation in the Field of Industry - A Background Study on Past and Present Activities, UNIDO/DIS 204 6 February, 1981, page 21.

Divestiture of public industrial enterprises

A number of developing countries including Argentina, Bangladesh, Brazil, Bolivia, Chile, Ghana, Malaysia, Nepal, the Republic of Korea, Saudi Arabi, Senegal, Singapore, Sri Lanka, and Thailand have pursued a policy or expressed a desire to sell public industrial enterprises to the private sector once the pioneering role of the government has been discharged. This policy enables the government to use its limited financial, managerial and other resources to pioneer new ventures.

In Thailand, public industries are being divested because they have fared poorly. The Government has repeatedly indicated its intentions to close down or sell state industries which were originally established to introduce a new industry as well as those now operating inefficiently. In Malaysia, the eventual sale of public industrial enterprises is also implied since they are being held in "trust" for the "BUMIPATRAS" until such a time as they are able to buy them from the State<sup>1/</sup>. In Pakistan, measures were taken to divest public industries to the private sector in 1977. Under the "Transfer of Management Establishment Order 1978" powers were vested in government to decentralize and return public industrial enterprise taken over by the previous regime to their original private owners. A similar policy has been adopted in Trinidad and Tobago, where the Government, in an effort to hasten "localization" has stated "that it considers its shareholdings as a trust held on behalf of the people and that it would release these holdings to the national public as circumstances permit". In Bolivia, the Government has expressed intention to sell off viable operations to

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<sup>1/</sup> Public Enterprise in the East and South-East Asian Region - A comparative study by R. Thillainathan. ESCAP Second Meeting of the South-East and East Asia Group of Consultants in connection with implementation of ESCAP Resolution 180(XXXIV): Strategies for the 1980s, 16-21 April 1981, DP/STR(2)/3, p. 24-25.

the private sector and in Chile the Government has also begun to sell its companies and to return nationalized industries. In Sri Lanka a drastic curtailment of the public sector was propounded in 1977 and it was expected that rapid privatization would take place. However, the public sector has not diminished drastically. The textile industry which was dominated by the public sector was handed over to private companies to manage; but this was more in the nature of a management contract rather than privatization.

In many developing countries in Western Asia<sup>1/</sup> the establishment of public industries and the participation of government in major industrial projects is undertaken with the understanding that ownership and control of these projects would be passed on to the private sector once the latter is found capable of and willing to be involved in such activities.

Public industries in the Republic of Korea are being sold off to the private sector because of the underlying commitment of the Government to free enterprise. These public enterprises have performed remarkably well by international standards and includes some of the most successful enterprises. The Republic of Korea is the only developing country in Asia which has gone some distance in divesting public industries, both enterprises directly owned by the Government as well as enterprises indirectly owned, for instance, by the Korea Development Bank. Its divestiture programme has been carried out by three methods: firstly open market operations by listing the shares of public industries at the stock exchange (Korea Fertilizer Company); secondly competitive bidding for the shares of the enterprise (Sea Han Motor Company); and thirdly through negotiation with potential buyers for the shares of the enterprise as a whole. There is a certain complexity associated with the political and economic

<sup>1/</sup> See: The Public Industrial Sector in the ECWA Region by ECWA Secretariat, Conference Room Paper No. 9, UNIDO Expert Group Meeting on the Changing Role and Function of the Public Industrial Sector in Development, Vienna, 5-9 Oct., 1981.



transaction costs of divestiture. In this context Leroy Jones<sup>1/</sup> observes that "divestiture, and also nationalization, involves real economic costs as a result of the disruption which accompanies any change in status. The magnitude of these costs varies with the organizational form of the enterprise: e.g. a departmental enterprise staffed by civil servants would be far more affected by a shift to private ownership than a joint stock company directed by independent managers. Political costs are also incurred. Divestiture means a shift of power and status away from bureaucrats, who may be expected to object vociferously". Thus considering the question of divestiture it would be useful to evaluate the benefits of improved efficiency against the social and economic cost of divestiture.

E. BRIEF ASSESSMENT OF CONTRIBUTION OF PUBLIC INDUSTRIAL SECTOR TO SELECTED NATIONAL GOALS - SOME TENTATIVE EVIDENCE

Scope of assessment

Much attention has been devoted to the justification and motivation for establishment of public industrial enterprises. Limited concern however has been devoted to their quantitative and qualitative impact upon national development and on performance constraints. This is no doubt due to their recent appearance on the development scene; to the inadequacies of the underlying data base; and to methodological problems associated with complex goal structures. The purpose of this assessment is merely to review and highlight major findings of the scarce literature which exist on the subject, rather than attempt

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1/ Leroy Jones, Public Enterprises and Economic Development, The Korea Case, Korea Development Institute, Seoul, Korea, page 131.

a separate study, which has been undertaken elsewhere.<sup>1/</sup> Generally speaking the few systematic studies that have been undertaken on the impact of public industries upon development are partial in nature, and carry an element of speculation. They seldom focus exclusively on the manufacturing sector.<sup>2/</sup> A common feature of these studies is that they tend to view the public sector in isolation, detached from the performance of the private sector; the implication being that no valid conclusions may be inferred as to the relative contribution of each sector.

#### General achievements

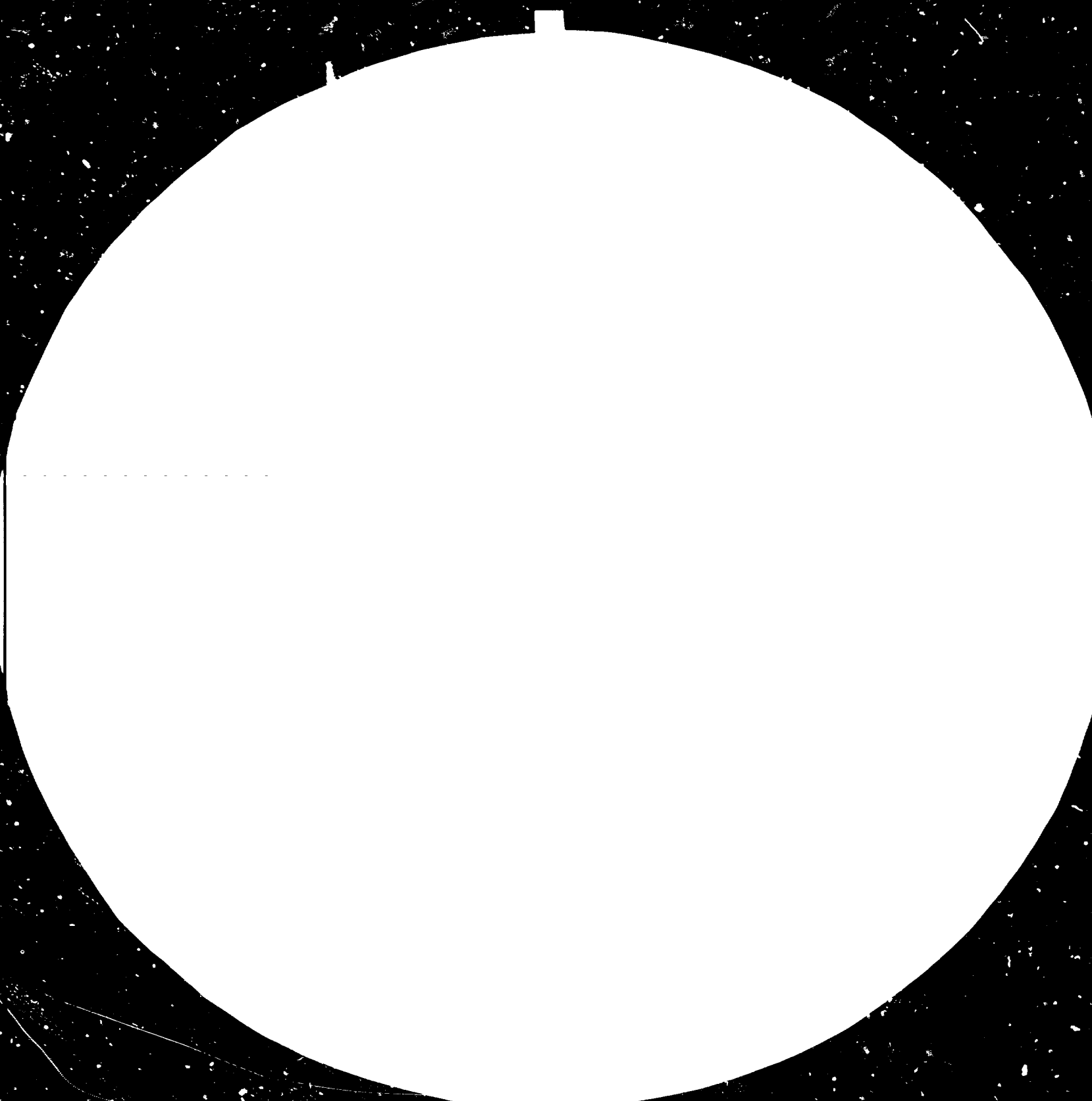
Public enterprises have made important contributions in a number of areas. Some of these do not easily lend themselves to being evaluated in traditional economic terms. In many developing countries the emergence of public industries occurred in response to pressures often of a non-economic nature which no government could seriously afford to overlook. This is particularly true with respect to the pursuit of the objectives of self-reliance and "indigenization" following independence in the 1950's and 1960's in many developing countries, especially in Africa. The desire for controlling the national destiny, and directing the pattern of national development was sought to be fulfilled through the establishment of public industries. They have made substantial achievements in the exploitation of natural resources, and in the development of basic and strategic industries. In many developing countries large scale

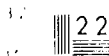
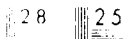
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<sup>1/</sup> Comparative Study of Impact of Public and Private Manufacturing Sectors in Selected Developing Countries by Javed Ansari. UNIDO ID/WG.343/10, 18 September 1981.

<sup>2/</sup> Part of the analysis in this chapter refers to public enterprises in general. Wherever possible however an attempt has been made to focus exclusively on public manufacturing enterprises.

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MICROSCOPY: RESOLUTION TEST TARGETS

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industrial projects have been established by the public sector, which were beyond the capability of the private sector. Their presence has been a counterweight to excessive concentration of private economic power. They have made a pivotal contribution, in some countries, to the emergence of a professional cadre of industrial managers. Public managers in industry have often proved more "development conscious" than their private counterparts in negotiations involving joint ventures with foreign firms and transfer of technology especially in petroleum processing and non-fuel minerals. Thus, their role as a vehicle for negotiating the purchase and import of technology have been quite important. While all these achievements are considered significant, the associated costs have rarely been assessed in the context of national, financial, human and other resources; moreover little is known of their effect upon investment in the private industrial sector.

A survey of the evidence of economic performance of public industries in four selected African countries is included in Chapter IV. This case study considered the objectives with which public industries were created drawing attention to the multiplicity of them and to the importance of non-economic goals. The survey concluded that in the four countries analyzed the public industrial sector contributed little to dynamic industrial growth, tended to become a drain on the public finance, required a net inflow of resources to cover its capital requirements and discouraged the growth of private industry. Thus it was difficult to point with any confidence to any substantial achievement except in the area of Africanization.

Employment, income distribution and anti-poverty goals

The establishment of public industries has often been motivated by a desire to create employment opportunities or to preserve jobs in ailing private industries. The contribution of public industries to employment creation has however been limited due to the marked capital intensive nature of investment in branches where they operate. There appears to be widespread consensus on this point. Leroy Jones and Il Sakong conclude that the public enterprise sector is "a most inefficient means of employment creation".<sup>1/</sup> Malcolm Gillis observes that "whatever the intention, state owned enterprises have not had a remarkable success in creating new jobs in the past decade or so. Their performance seems all the more perplexing in the light of the pervasive tendency towards overstaffing of labour in state industries."<sup>2/</sup>

Malcolm Gillis further observes that public industries may have had a more significant impact in preserving industrial employment by taking over terminally ill private industries, but usually at a substantial cost to the exchequer in the form of subsidies to keep enterprises going.<sup>3/</sup> Very few governments - and not only in developing countries - allow large private firms to collapse due to genuine concern over the social implications of unemployment in the wake of bankruptcies in the private sector. Ailing private firms are then usually absorbed into the sphere of the public sector. Cases in point are cement plants in Bolivia and those textile industries in India. In other cases, government has been reluctant to let their equity or credit in ailing firms vanish entirely. Such cases have been observed in Turkey, Argentina, Indonesia, Tanzania

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<sup>1/</sup> Op. cit., page 154.

<sup>2/</sup> Op. cit., page 181.

<sup>3/</sup> Op. cit., page 280.

and Nepal. Under Bolivian law and tradition it is virtually impossible to go out of business. Malcolm Gillis notes that as a result perhaps half of the over 50 firms owned by the Bolivian state belong to the "sinking sands" category, as do the majority of Indian state owned textile enterprises.<sup>1/</sup>

With regard to income distribution, an examination<sup>2/</sup> of the impact of increased state participation in the economy on the distribution of income in Brazil and Peru indicate that there is considerable evidence that behaviour of state enterprises has not contributed to generate equality in the distribution of income and might even, as some evidence suggests, have contributed to an increase in the concentration of income. In the case of Brazil, the principal reason is that the administrative hierarchies of state enterprises are primarily concerned with the efficient functioning and rapid growth of their entities and pursue corporate strategies which contradict the egalitarian distributive goals of the central government. In the case of Peru the inefficiency of state industries caused large deficits funded mainly by the state which had a regressive impact on the distribution of income; state resources could have been used for projects with much greater social impact.

In examining public enterprises as an instrument of policy in anti-poverty strategies in South Asia, Rehman Sobhan<sup>3/</sup> concludes that they have not been conspicuously successful as an anti-poverty

1/ Op. Cit., page 281.

2/ The Impact of increased State Participation in the Economy on the Distribution of income: Some Reflections Based on the Cases of Brazil and Peru, by Werner Baer and Adolfo Figueroa prepared for the Second BAPEG Conference on Public Enterprises in Mixed Economy LDC's, April 3-5, 1980.

3/ Public Enterprise as an Instrument of Policy in Anti-poverty Strategies South Asia, by Rehman Sobhan. Economic and Social Council for Asia and Pacific; Second Meeting of the South Asia Group of Consultants in connexion with the implementation of ESCAP resolution 18 (XXXIX): Strategies for the 1980's. This study refers to industrial and non-industrial public enterprises.



instrument; they have had some success in achieving an element of regional dispersal of public investment to backward areas and to a limited extent they have benefitted some elements of the working class. They have to some extent increased the earnings of the farm sector. The investment strategy of public enterprises has not made any significant contribution to employment and meeting the basic needs of the poor however. The particular choice of sectors under public enterprise has tended to be both aid intensive and capital intensive. However, these investments have had an important secondary impact on both employment and meeting of basic needs which have contributed both to growth and improvement in conditions of life. In Rehman Sobhan's view the nature of the state is a critical factor in determining the growth of public enterprise, the interest it will serve, its viability and its distributive impact in society.

Savings mobilization, government revenue, macro-economic stability

Public enterprises have often been established in the expectation that they would contribute to resource mobilization, government revenue and price stability. Public industries require large capital resources for their establishment and expansion and their share in investment in a developing country is typically higher than their share in value added, output and employment. The question is whether they generate sufficient savings to finance their own capital requirements and contribute to capital formation in other sectors as well.

The experience of selected Asian Countries has shown that public industries in general (including non-manufacturing public enterprises) perform a relatively more important function as investment agents than as resource mobilizers.<sup>1/</sup> Public enterprises in general do not

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<sup>1/</sup> I. Sakong: Macro-economic Aspects of Public Enterprises in Asia: A Comparative Study, Korea Development Institute, 1979, p. 72.

mobilize sufficient resources for their own development needs and require external financial resources. The absolute surplus generated by these enterprises (including retained earnings, taxes and dividends) has however grown into a sizeable magnitude. It would appear that in South Asia public enterprise has not realized its potential as a source of growth for the economy or as an instrument for distributing income towards the poor.<sup>1/</sup> In other countries such as Argentina, Egypt, Guyana, Nicaragua and Panama the net savings of the consolidated state enterprise sector was typically negative during the period 1970-73.<sup>2/</sup> In Ghana most of the public enterprises made either big losses or meagre profits.<sup>3/</sup>

Public enterprises in the Republic of Korea, Singapore and Pakistan have generated substantial results. Malcolm Gillis observes that in the Republic of Korea, Uruguay (1975-76), India (1970-72), Pakistan (1972-74) and Indonesia (1976-78) state enterprise savings represented as much as 10-15 per cent of gross domestic investment.<sup>4/</sup> However in each of the first three countries the state enterprise sector was unable to generate enough savings to finance its own investment requirements. In countries like Bangladesh, Thailand, Bolivia, Chile and Uruguay before 1973 as well as Somalia, Jamaica and Colombia the savings of state enterprises (1970-73) accounted for less than five per cent of domestic investment. In other countries such as Brazil, Indonesia, Chile, Uruguay and Thailand there are more public enterprises that shown positive accounting profits than losses.

<sup>1/</sup> Committee for Development Planning: Consultants' Report on Development strategies for the 1980's in South Asia: Expert Group on Development Priorities and Policy Needs of South and East Asia, 20-24 October 1980, Bangkok, Conference Room Paper No. 3, p. 44.

<sup>2/</sup> Malcolm Gillis, page 267.

<sup>3/</sup> Ghana, Report on Domestic Resource Mobilization Feb 18, 1981 World Bank, para 55.

<sup>4/</sup> Op. Cit., 266-270.

Major problems and constraints in achieving  
commercial and socio-economic objectives

Various factors acts as a drag on industrial efficiency in general in developing countries such as the small size of the domestic market; unreliability of local sources of supply; shortages of foreign exchange; inadequate infrastructure; etc.. These constraints affect both public and private industrial enterprises.

That substantial losses are common, meagre savings seldom and high surplus exceptional in public industries, however, can hardly be attributed exclusively to the external economic environment which is generally favourable to the public enterprise, being concentrated in natural resource-based industries, enjoying monopoly or oligopoly power, and a certain degree of protection from external and domestic competition. Furthermore, public industries generally receive government support and services including preferential financial terms and conditions. The reasons for unsatisfactory performance of public industrial enterprise are therefore most likely to be found in circumstances related to the decision making process of the firm, which may in many cases be highly influenced by external pressures often of a political nature. The particular problems and constraints facing public industries in achieving commercial and socio-economic objectives may briefly be summarized as follows based upon the experiences of selected developing countries:

- a) The commitment to a variety of social objectives usually has cost implications. At periods state industries have been entrusted social or strategic functions which otherwise would have been undertaken by the government. While vaguely defined and conflicting social objectives are often advocated as explanation for poor performance results,

there seems to be general consensus<sup>1/</sup> that the discharge of social responsibilities should not be made an excuse for inefficiency. In fact if enterprises operated effectively their ability to discharge social responsibilities would be greatly enhanced.

b) The public sector family encompass some ailing or terminally ill industrial units of the "sinking sands" and "lame duck" category which are seldom allowed to collapse and which would long have ceased to exist in the private sector. Incentives for cost minimization therefore are generally weaker than in the private sector. The continuous drain upon the exchequer and the banking system and the resultant macro-economic instability, inflation, etc. call for careful evaluation.

c) The price policy of public enterprises is often determined by the government. As a result public industrial enterprises often charge lower prices than their private counterparts. This is so because government may not wish to exploit monopoly power and because prices are primarily determined without reference to the objective of maximising enterprise profit. There is a tendency for Governments to use their control over public enterprise policy to hold down prices and thus subsidize consumers, mainly the urban population.

d) Public industrial enterprises are generally faced with shortages of trained managerial personnel. The appointment of non-professional managers who are political protégés is common. Public enterprises are often overstaffed at all levels; favoured targets of labour strikes, unrest and corruption; and frequently pursuing a high-wage policy thereby further compounding problems of labour productivity. Further the

<sup>1/</sup> UNIDO, Report of the Expert Group Meeting on the Role of the Public Sector in the Industrialization of Developing Countries, UNIDO ID/WG/298/15 p. 8 (1979).

absence of an effective incentives system to reward performance within the framework of salary and wage policy has tended to discourage the retention of professionally competent managers or inhibit their operational effectiveness. There is also evidence that deficiency in project planning and lack of proper management accounting system and inadequate training schemes have contributed substantially to sub-standard economic performances. As a result public industrial enterprises often operate under conditions of low capacity utilization, supply bottlenecks and other symptoms of managerial inefficiency caused by the politization of management.

e) The organizational structure of public industrial enterprises and the institutional framework established to support their operations influence the performance of public industries. Frequently management is granted little discretion in decisions relating to investment, employment, pricing, wages and salaries, incentives and other policies, which are often subject to external influence of a political nature. The political milieu is indeed an important determinant of economic efficiency; however, trivialization of political control has often resulted in: 1) excessive interferences in day-to-day management rather than long-term policy guidance; 2) complete lack of clarity in objectives of public enterprises; 3) non-existing, inadequate and contradictory policy directives from responsible ministries. Civil service procedures especially budgeting procedures are often too cumbersome to meet the needs of commercial operations and corruption is a source of sub-standard performance. In this context experience has shown that public enterprises operating under control structures with less government intervention/supervision have generally

produced better results than enterprises with high government control and supervision.<sup>1/</sup>

It would thus appear that the contraction of the above constraints would be essential for improving the performance of public industrial enterprises and for increasing their ability to achieve commercial and socio-economic objectives with efficiency.

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1/ Role of the Public Sector in the Industrialization of Pakistan,  
a case study of Pakistan by Reza H. Syed. UNIDO/IS.355,  
18 November 1982.

Appendix I  
(East and South Asia)

E A S T   A N D   S O U T H   A S I A

Manufacturing value added, output, investment and employment by public and private sector, selected countries and years

Country	Share of public sector in total manufacturing				Share of private and co-operative sector in total manufacturing				Year	Remarks
	Value added	Out-put	Investment	Employment	Value added	Out-put	Investment	Employment		
Bangladesh	72.6		-		27.4		-		1972/73	
	61.8		90.8		38.2		9.2		1973/74	
	65.3		91.0		34.7		9.0		1974/75	
	70.7		89.8		29.3		10.2		1975/76	
	71.7		87.8		28.3		12.2		1976/77	
	70.6		80.8		29.4		19.2		1977/78	
	-		80.2		-		19.8		1978/79	
Burma		46.4		17.2		53.6		82.8	1977/78	
India		8.0		-		92.0			1960/61	Manufacturing sector refers to organized sector
				61.7				38.3	1966/67	
				61.0				39.0	1970/71	
				60.9				39.1	1975/76	
				-	22.7			-	1977	
		19.0		-			81.0		1979	
Republic of Korea	15.25				84.75				1963	Refers to GDP
	15.11				84.89				1972	
Pakistan	3.0	2.0	-	5.0	97.0	98.0	-	95.0	1965	
	4.5	3.0	11.4	8.0	94.5	97.0	88.6	92.0	1970	
	84.0	40.0	42.6	22.0	16.0	60.0	57.4	78.0	1975	Mass nationalization under economic reforms order 1972
			70.7				29.3		1980	
Sri Lanka			55.3				44.7		1972-76	Total manufacturing includes mining and quarrying
		23.0		6.0		77.0		94.0	1974	
	64.3	62.3			35.7	37.7			1976	
Thailand				2.2				97.8	1972	
				1.7				98.3	1974	
				2.7				97.3	1976	
	8.2	4.1		-	91.8	95.9			1977	
	7.2	3.8		2.3	92.8	96.2		97.7	1978	
	6.5	3.5			93.5	96.5			1979	

## WEST ASIA

Manufacturing value added, output, investment and employment by public and private sector, selected countries and years

Country	Share of public sector in total manufacturing				Share of private and co-operative sector in total manufacturing				Year	Remarks
	Value added	Out-put	Investment	Employment	Value added	Out-put	Investment	Employment		
Iraq			15.2				84.8		1960	
			45.6				54.4		1961	
				31.3				68.7	1969	
	52.1		48.3		47.9		51.7		1970	
				40.9				59.1	1972	
			94.7				5.3		1973	
	41.5		96.7	39.6	58.5		3.3	60.4	1975	
Jordan			22.2				77.8		1973-75	Includes mining
			12.0				88.0		1976-80	
Oman			64.8				35.2		1976-80	
Syria	22.8			8.5	77.2			91.5	1963	
	51.3(1966)	93.0(1968)		35.6(1966)	48.7(1966)	7.0(1968)		64.4(1966)	1966/68	
	60.4		70.5	37.8	39.6		29.5	62.2	1970	
			77.6				22.4		1973	
	54.6		95.9	33.1	45.4		4.1	66.9	1975	
	57.6		97.7	33.8	42.4		2.3	66.2	1977	
			87.6 <sup>a/</sup>				12.4		1976-80	<sup>a/</sup> Excludes mixed cooperatives sector; includes also mining and energy.
Yemen, Arab Republic			96.1	78.3			3.9	21.7	1969/70	
			82.2				17.8		1972/73	
			61.2				38.8		1974/75	
			57.7				42.3		1975/76	
			50.0 <sup>a/</sup>				50.0		1973-75	<sup>a/</sup> Excludes mixed sector
			39.0 <sup>a/</sup>				61.0		1976-80	<sup>a/</sup> Excludes mixed sector
Yemen, Democratic	39.4					28.6			1969	) Excluding mixed and co-operative sector
	44.9					31.9			1973/74	
				75.4				21.1	1973	
				80.6				14.5	1974	
				74.6				16.9	1975	
			96.1				3.9		1975-79	



Appendix I (cont'd)  
(Latin America)

L A T I N A M E R I C A

Manufacturing value added, output, investment and employment by public and private sector, selected countries and years

Country	Share of public sector in total manufacturing				Share of private and co-operative sector in total manufacturing				Year	Remarks
	Value added	Out-put	Investment	Employment	Value added	Out-put	Investment	Employment		
Brazil	10.6		22.1		89.4		77.9		1965	
	14.4		24.4		85.6		75.6		1970	
	19.4		33.0		80.6		67.0		1975	
El Salvador			40.9				59.1		1973-77	
Guatemala			15.9				84.1		1976-79	
Haiti			10.0				90.0		1976-81	
Mexico	19.4			9.8	80.6			90.2	1965	
	22.9		54.0	12.1	77.1		46.0	87.9	1970	
	29.8		65.0	14.4	70.2		35.0	85.6	1975	
Nicaragua					100.0				1970	
					100.0				1975	
		34.0		59.0	66.0		41.0		1980	
Panama	9.8	3.4	6.2	1.3	90.2	96.6	93.8	98.7	1975	
	3.7	2.5			96.3	97.5			1977	
Peru			25.3				74.7		1971-75	
Venezuela			21.7				78.3		1970	
			43.7				56.3		1975	
			59.6				40.4		1976	

## A F R I C A

Manufacturing value added, output, investment and employment by public and private sector, selected countries and years

Country	Share of public sector in total manufacturing				Share of private and co-operative sector in total manufacturing				Year	Remarks
	Value added	Output	Investment	Employment	Value added	Output	Investment	Employment		
Algeria	47.5	41.2	68.8	47.6	52.5	58.8	31.2	52.4	1969	
	46.6	41.0	61.4	64.0	53.4	59.0	38.6	36.0	1970	
	70.9	57.4		67.7	29.1	42.6		32.3	1975	
	74.9	72.5		73.6	25.1	27.5		26.4	1978	
	84.9	79.1		81.0	15.1	20.9		19.0	1984	Plan
Egypt	68.7	65.2	90.6	59.7	31.3	34.8	9.4	40.3	1975	
	64.7	60.9	81.4	70.0	35.3	39.1	18.9	30.0	1979	
	66.7	66.7			33.3	33.3			1981-82	
Ghana		18.9				81.1			1962	Including mixed state and foreign enterprises
		32.2				67.8			1966	
		32.9				67.1			1970	
Ivory Coast			19.3			80.7			1971-75	
Morocco			9.3			90.7			1973	Manufacturing and processing industry excluding construction and petroleum
			19.7			80.3			1974	
			24.1			75.9			1975	
			34.8			65.2			1976	
Nigeria			17.7			82.3			1970-74	All industry excluding mining
Senegal	21.1				78.9				1974	
Somali		85.1	79.9	65.3		14.9	20.1	34.7	1973	All industry
Tanzania	14.4*		13.0(1966)	15.5	85.6*		87.0(1966)	84.5	1967	Public sector refers to industrial parastals * Manufacturing GDP
	25.6*		38.0(1969)	32.0	74.4*		62.0(1969)	68.0	1970	
	39.2*		39.0(1972)	48.2	60.8*		61.0(1972)	51.8	1975	
	33.6*			47.3	66.4*			52.7	1978	
Tunisia			58.4			41.6			1969-72	
			44.3			55.7			1973-76	
			53.7			46.3			1977-81	Target
Zambia				12.0				88.0	1968	INDECO enterprises only
	52.0*		64.0**	38.0	48.0*		36.0	62.0	1972	** Fixed assets
	51.0*			42.5	49.0*			57.5	1977	* Share of manufacturing GDP

Appendix I (cont'd)

Manufacturing value added, output, investment and employment by public and private sector, selected countries and years

Country	Share of public sector in total manufacturing				Share of private and co-operative sector in total manufacturing				Year	Remarks
	Value added	Out-put	Investment	Employment	Value added	Out-put	Investment	Employment		
Turkey	52.7		21.0	44.0	47.3		79.0	56.0	1963	
	62.9		37.8	43.0	37.1		62.2	57.0	1967	
	62.0		40.2	42.3	38.0		59.8	57.7	1968	
	-		42.4	-	-		57.6	-	1970	
	47.3		47.8	37.4(est.)	52.7		52.2	62.6(est.)	1972	
	-		-	35.2(est.)	-		-	64.6(est.)	1973	

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Zambia: Same as for Ghana.

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Appendix II. Dynamic Role of Public Industrial Sector  
Share of Public Industrial Sector in Total Manufacturing Investment

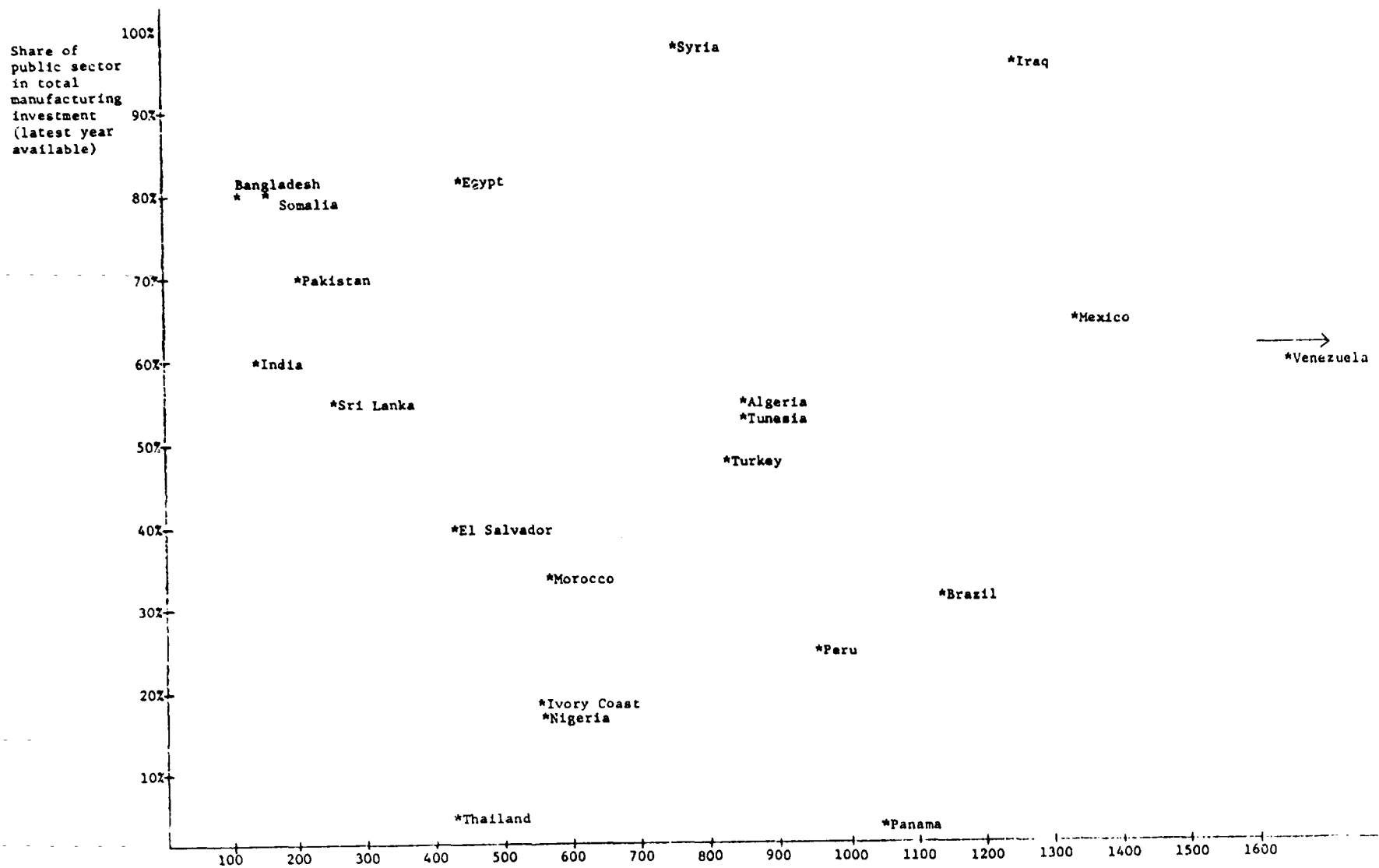
Country	1960	1965	1970	71	72	73	74	75	76	77	78	79	80
- Percentage -													
<u>Increasing role of public industrial sector</u>													
Iraq	15.2		48.3			94.7		96.7					
Pakistan			11.4					70.7					
Mexico			54.0					65.0					
Venezuela			21.7					43.7	59.6				
Morocco						9.3	19.7	24.1	34.8				
Brazil		22.1	24.4					33.0					
<u>Declining role of public industrial sector</u>													
Egypt								90.6				81.4	
Bangladesh						90.8	91.0	89.8	87.8	80.8	80.2		
Yemen, A.R.			96.1 <sup>4/</sup>		82.2 <sup>5/</sup>		61.2 <sup>6/</sup>	57.7 <sup>7/</sup>					
Jordan								22.2 <sup>12/</sup>					12.0 <sup>13/</sup>
<u>Fluctuating role of public industrial sector</u>													
Syria		93.0 <sup>11/</sup>	70.5			77.6		95.9		97.7			87.6 <sup>14/</sup>
Tunesia			58.4 <sup>1/</sup>					44.3 <sup>2/</sup>				53.7 <sup>3/</sup>	
<u>Unchanged role of public industrial sector</u>													
India		61.7 <sup>8/</sup>	61.0 <sup>9/</sup>					60.9 <sup>10/</sup>					

1/ 1969-72 2/ 1973-76 3/ 1977-81 4/ 1969-70 5/ 1972-73 6/ 1974-75 7/ 1975-76 8/ 1966-67 9/ 1970-71 10/ 1975-76

11/ 1968 12/ 1973-75 13/ 1976-1980 14/ 1976-1980

Source: Appendix I.

Appendix III. Share of Public Industrial Sector in Total Manufacturing Investment by Stage of Development  
 - Selected Countries -



US\$ GDP per capita for latest year (or average of years)

Source: Appendix I and UNIDO Data Base

For non-Opec countries:  
 $r^2 = -0.63$   
 Var = 597.6  
 S.D = 25.37  
 Mean = 43.41



Appendix IV. Relative Weight of Manufacturing within the Overall Public Sector  
in Terms of Value Added: Selected Countries

(Percentage)

Country	1960	1965	1970	1971	1972	1973	1974	1975
Bangladesh <sup>1/</sup>	-	-	-	-	49.4	52.3	46.6	-
India	13.7	19.3	21.7	-	22.4	-	-	-
Korea, Rep. of	-	30.3 <sup>2/</sup>	39.2	-	-	42.3	-	46.6
Nepal	-	-	-	29.0	-	30.0	-	19.0
Pakistan	5.8	8.2	9.0	-	-	15.0	-	14.9
Sri Lanka	3.8 <sup>3/</sup>	12.4 <sup>4/</sup>	-	-	-	27.4	34.4	-
Thailand	-	-	23.6	-	-	19.9	-	-

<sup>1/</sup> Includes also mining

<sup>2/</sup> 1963

<sup>3/</sup> 1961

<sup>4/</sup> 1966

Source: Based on Il Sakong: Macro-economic Aspects of Public Enterprise in Asia: A Comparative Study, January 1979, Korea Development Institute, pages 51 to 53.

Appendix V. Relative Weight of Public Industrial Sector in Various Branches of Industry

- Selected Countries (latest year available) -

Branch	Share of public sector in each manufacturing category												
	Syria				Nicaragua					Brazil			
	Out-put	Value Added	Invest-ment	Employ-ment	Output	Value Added	Invest-ment	Employ-ment	Number of <sup>a/</sup> Enterprises				
	1977				1980					1981			
	Percentage			Percentage			Number			Net Assets	Employ-ment	Number of Public Enterprises	
<u>Mainly consumer goods:</u>													
Food products	311+12	32.5	99.2	25.0	28.6								
Beverages	313	30.0	98.0	16.7	46.3								
Tobacco	314	100.0	100.0	100.0	-								
Textiles	321	72.2	97.5	44.5	33.0				4	1	1		
Wearing apparel	322	9.8	91.9	9.4	6.2				8	1			
Leather and fur products	323	12.0	99.0	8.1	11.4				1				
Footwear	324	0	0	0	(included in 322)								
Wood and cork products	331	-	-	27.2	20.9				3				
Furniture and fixtures	332	0		0	62.2				3				
Printing and publishing	342	0		0	21.1				2	2			
Prof. and scientific equip., photo and optical goods	385	-		-									
Other manufactures	390	92.2			21.2				2	1			
<u>Mainly intermediate goods:</u>													
Paper	341	72.7	100.0	35.2	0.0				1	1	5.3	1.0	1
Industrial chemicals	351	43.0	98.5	100.0	6.6				10	1	55.2	31.0	15
Other chemicals	352					100	30.5						
Petroleum refineries	353	100.0	100.0	100.0							96.4	94.2	1
Misc. prod. of petroleum and coal	354	100.0	100.0	100.0									
Rubber products	355	36.1	91.0	44.9							7.3	3.3	3
Plastic products	356	21.1	6.7	21.2									
Pottery, China and Earware	361	-		-									
Glass	362	87.8	100.0	83.4	66.7				13	2			
Other non-metallic mineral products	369	70.7	100.0	56.2									
<u>Mainly capital goods:</u>													
Iron and steel	371	100.0	100.0	100.0					2		72.0	59.0	9
Non-ferrous metals	372	0	-	-						3	1		
Metal prod. inc. machinery	381	15.0	41.6	8.9	75.5				3				
Non-electrical machinery	382	77.4	89.5	34.8	24.0				2				
Electrical machinery	393	80.5	86.0	51.8									
Transport equipment	384	-	-	-	41.1								
									68	12	2		27

a/ Large enterprises above 50 employees. Medium enterprises more than 10, but less than 50 employees. Small enterprises less than 10 employees.

Source: Same as for Appendix I.

Appendix V. Relative Weight of Public Industrial Sector in Various Branches of Industry (cont'd)

- Selected Countries (latest year available) -

Branch	Share of public sector in each manufacturing category													
	Sri Lanka					Thailand								
	Output	Value Added	Investment	Employment	Number of a/ Enterprises			Output	Value Added	Investment	Employment	Number of Enterprises		
					L	M	S					L	M	S
1978					1975									
Percentage					Number									
<u>Mainly consumer goods:</u>														
Food products	311+12	} 34.9	14.6	38.0	8			1.6	} 21.0		M.A.			
Beverages	313													
Tobacco	314	} 46.2	62.4	34.0	3			21.4	} 27.8					
Textiles	321													
Wearing apparel	322													
Leather and fur products	323													
Footwear	324	} 83.0	67.3	85.0	2			2.5	} 10.6					
Wood and cork products	331													
Furniture and fixtures	332	} 7.3	89.0	65.0	2			36.3	} 3.9					
Printing and publishing	342													
Prof. and scientific equip., photo and optical goods	385													
Other manufactures	390													
<u>Mainly intermediate goods:</u>														
Paper	341	} 52.9	89.3	60.0	2			10.0	} 10.6					
Industrial chemicals	351													
Other chemicals	352	} 86	28.0	21.0	6			3.7	} 6.5					
Petroleum refineries	353													
Misc. prod. of petroleum and coal	354													
Rubber products	355													
Plastic products	356	} 53.7	33.5	18.0	4			1.9	} 6.2					
Pottery, China and E.ware	361													
Glass	362													
Other non-metallic mineral products	369													
<u>Mainly capital goods:</u>														
Iron and steel	371	} 100	100	100	2				} 8.5					
Non-ferrous metals	372													
Metal prod. inc. machinery	381	} 4.4	4.8	10.0	2			2.9	} 3.0					
Non-electrical machinery	382													
Electrical machinery	383													
Transport equipment	384													
					31									

a/ Large enterprises above 50 employees. Medium enterprises more than 10, but less than 50 employees. Small enterprises less than 10 employees.

Source: Same as for Appendix I.

Appendix V. Relative Weight of Public Industrial Sector in Various Branches of Industry (cont'd)

- Selected Countries (latest year available) -

Branch	Share of public sector in each manufacturing category									
	Egypt					Pakistan				
	Output	Value Added	Investment	Employment	Number of <sup>a/</sup> Enterprises	Output	Value Added	Investment	Employment	Number of Enterprises
1979					1975-76					
Percentage					Percentage					
<u>Mainly consumer goods:</u> . . . . .	50.2	51.9			47					
Food products 311+12						52	45	-	26	25
Beverages 313						-	-	-	-	-
Tobacco 314						-	-	-	-	-
Textiles 321						1.2	1.2	-	2.0	3
Wearing apparel 322					36	-	-	-	-	-
Leather and fur products 323						-	-	-	-	-
Footwear 324						-	-	-	-	-
Wood and cork products 331						-	-	-	-	-
Furniture and fixtures 332						-	-	-	-	-
Printing and publishing 342						25	40	-	23	8
Prof. and scientific equip., photo and optical goods 385										
Other manufactures 390										
<u>Mainly intermediate goods:</u> . . . . .	81.0	79.0								
Paper 341										
Industrial chemicals 351					42	83	89	-	80	14
Other chemicals 352										
Petroleum refineries 353						-	-	-	-	1
Misc. prod. of petroleum and coal 354						100	100	-	100	1
Rubber products 355										
Plastic products 356										
Pottery, China and E.ware 361										
Glass 362					12	90	90	-	34	10
Other non-metallic mineral products 369										
<u>Mainly capital goods:</u> . . . . .	80.0	78.0								
Iron and steel 371					10	90	95	-	90	12
Non-ferrous metals 372										
Metal prod.inc.machinery 381										
Non-electrical machinery 382						21	29	-	31	5
Electrical machinery 383					38					
Transport equipment 384						82	93	-	80	11
					185					90

a/ Large enterprises above 50 employees. Medium enterprises more than 10, but less than 50 employees. Small enterprises less than 10 employees.

Source: Same as for Appendix I.

Appendix V. Relative Weight of Public Industrial Sector in Various Branches of Industry (cont'd)

- Selected Countries (latest year available) -

Branch	Share of public sector in each manufacturing category														
	Algeria						Venezuela <sup>b/</sup>								
	Output	Value Added	Investment	Employment	Number of <sup>a/</sup> Enterprises			Output	Value Added	Investment	Employment	Number of Enterprises			
					L	M	S					L	M	S	
1978						1979									
Percentage						Percentage									
<b>Mainly consumer goods:</b>															
Food products	311+12	} 72.2	} 73.2	} 77.7	} 10	} 5	} 0	} 0-24	} 0.24	} 0.24	} 0.24	} 26	} 4		
Beverages	313														
Tobacco	314														
Textiles	321	} 28.8	} 37.4	} 56.2	} 12	} 28	} 6	} 0-24	} 0.24	} 0.24	} 0.24	} 2	} 2		
Wearing apparel	322														
Leather and fur products	323	} 49.9	} 57.3	} 75.9	} 10	} 1	} 1	} 0-24	} 0.24	} 0.24	} 0.24	} 1	} 1		
Footwear	324														
Wood and cork products	331	} 57.8	} 60.6	} 69.2	} 19	} 25	} 1	} 0-24	} 0.24	} 0.24	} 0.24	} 1	} 1		
Furniture and fixtures	332														
Printing and publishing	342														
Prof. and scientific equip., photo and optical goods	385	} 42.0	} 53.5	} 10.1	} 2	} 3	} 2	} 0-24	} 0.24	} 0.24	} 0.24	} 1	} 1		
Other manufactures	390														
<b>Mainly intermediate goods:</b>															
Paper	341	} incl. in 342	} 72.4	} 74.2	} 68.5	} 1	} 0	} 0	} 0-24	} 0-24	} 0-24	} 0.24	} 1		
Industrial chemicals	351														
Other chemicals	352	} 100	} 100	} 100	} 3	} 0	} 0	} 0-24	} 0-24	} 0-24	} 0-24	} 2	} 2		
Petroleum refineries	353														
Misc. prod. of petroleum and coal	354	} incl. in 351 and 352	} 90.8	} 92.2	} 91.0	} 20	} 35	} 4	} 0-24	} 0-24	} 0-24	} 0-24	} 4	} 1	
Rubber products	355														
Plastic products	356														
Pottery, China and E. ware	361	} 90.8	} 92.2	} 91.0	} 20	} 35	} 4	} 0-24	} 0-24	} 0-24	} 0-24	} 2	} 1		
Glass	362														
Other non-metallic mineral products	369	} 92.7	} 90.1	} 80.0	} 16	} 8	} 0	} 0-24	} 0-24	} 0-24	} 0-24	} 1	} 1		
Iron and steel	371														
Non-ferrous metals	372	} 92.7	} 90.1	} 80.0	} 16	} 8	} 0	} 0-24	} 0-24	} 0-24	} 0-24	} 4	} 4		
Metal prod. inc. machinery	381														
Non-electrical machinery	382	} 92.7	} 90.1	} 80.0	} 16	} 8	} 0	} 0-24	} 0-24	} 0-24	} 0-24	} 1	} 1		
Electrical machinery	383														
Transport equipment	384	} 92.7	} 90.1	} 80.0	} 16	} 8	} 0	} 0-24	} 0-24	} 0-24	} 0-24	} 1	} 1		
						93	105	14						66	9

a/ Large enterprises above 50 employees. Medium enterprises more than 10, but less than 50 employees. Small enterprises less than 10 employees.

b/ Figures indicate range of estimate.

Source: Same as for Appendix I.

CHAPTER II. THE PUBLIC MANUFACTURING ENTERPRISE  
IN THE DEVELOPED MARKET ECONOMIES\*

by

JAVED ANSARI\*\*

This chapter concentrates on an evaluation of the role of public industrial enterprise (PIE) within the national economy of the Developed Market Economy Countries (DMECs). It presents a picture of the relative importance of public manufacturing enterprise within the DMECs, assesses their impact on national development, outlines the formal structures of control of these enterprises and assesses the evolving relationship between the public manufacturing enterprise, the government and the private sector. The primary concern is with an analysis of the nature and form of public intervention used to control the rate and direction of industrial development in the DMECs. Conventional economic theory had held that the development of the national economy did not require governmental intervention. Indeed it was argued that a "night watchman" state was the most effective economic catalyst for efficient economic development. The history of the world's first industrial nation - the United Kingdom - demonstrated, in this view, the fact that when governments concern themselves primarily with the provision of a 'liberal' economic environment and espouse a 'laissez-faire' economic philosophy, many fetters on industrial expansion are removed and the process of development is accelerated. The 'Monetarist' revival has endorsed these views. It lays much of the blame for the current economic recession in the West on what in its view is an excessive involvement of the government within the market place. The current governments of the United Kingdom and United States have explicitly set themselves the task of dismantling the State's "industrial empire" and it is expected that this will revitalize the national economy by reducing the level of monopolistic control. The practice of monetarist policies has illustrated how difficult it is to put theory into practice.

\* The views expressed in this paper are those of the author and do not necessarily reflect the views of the Secretariat of UNIDO.

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State intervention in the industrial sector of most DMECs has often been induced by a desire to rescue "sick" private firms from economic bankruptcy. In many countries large public and private firms have come to regard the government as a "last resort" guarantor of corporate existence. DMEC governments have found it increasingly difficult to abandon this role particularly during periods of stagnation when the unemployment issue becomes the main focus of political debate within the country. In such times many DMEC governments have felt compelled to "bail out" declining firms even though this necessitates an increase in the public sector borrowing requirement (PSBR), fuels credit expansion and endangers the macroeconomic strategy. This inability of DMEC governments to reduce their involvement in the management of the industrial sector - despite their avowed intentions - indicates that the post-war period has seen the emergence of a new form of industrial organization in which public and private interests constantly interact in the processes of policy-making and policy implementation. The extent and form of this interaction is determined first of all by the relative weight of public enterprises within the industrial sector of DMECs. The first section of this paper attempts to present evidence on this question.

A. Relative Importance of PEs in the Industrial Sector of the  
Developed Market Economy Countries (DMEC)

The relative importance of PEs within the industrial sector of the DMECs varies considerably. In the United Kingdom,<sup>1/</sup> PE accounted for 11.1 per cent of GDP, 8.1 per cent of total employment and 20.0 per cent of gross fixed capital formation in 1979. While the relative size of PE remained stable in terms of GDP and employment since 1976, a significant decline occurred in regard to fixed capital formation from 26.3 per cent in 1976 to 20.0 per cent in 1979. Almost one-third of this decline is attributed to iron and steel industries where investment has fallen from £684.2 million in 1976 to £388.9 million in 1979.

<sup>1/</sup> Public Enterprise in the European Economic Community, CEEP Review 1981, pages 116-117.

PEs accounted for 84 per cent of the output in mining and quarrying, 77 per cent in the energy sector and 5 per cent in manufacturing. This figure is undoubtedly an under-estimate. Many PEs - such as Rolls Royce, British Leyland, Ferranti, Data Recording Instruments, etc. - are wholly-owned by the National Enterprise Board (NEB) which is a public corporation but its holdings are classified as private enterprises. The NEB also has substantial minority holdings in a number of leading manufacturing enterprises. The influence of the State within the British manufacturing sector is significantly greater than the 5 per cent output share figure would indicate.

In Italy the PE share of gross output in 1978 accounted for 77.8 per cent of the mining industries, 93 per cent of the electricity, gas and water industries, 73.5 per cent of transport and communication and 12.8 per cent of manufacturing industry.<sup>1/</sup> In the manufacturing sector the branches of industry in which the public presence is most notable are: metallurgy (40.8 per cent of total gross product), the construction of transport facilities (26.4 per cent), food (12.8 per cent), chemicals (10.8 per cent), mechanical engineering (10.5 per cent) and construction industries (10.7 per cent) (Table 1).

In France the share of PEs in total non-agricultural employment fell from 14.6 per cent in 1963 to 10.7 per cent in 1973 after which the share increased to 11.8 per cent in 1979.<sup>2/</sup> The importance of PEs in the French economy however should be gauged by the rapid growth in shares held by PEs in private companies. An informed commentator has stated that "a study of the figures supplied by the National Income Accounts shows that the weight of the public sector in the totality of industry has tended to diminish. But these figures relate to a public sector without subsidiaries. Analysis of the acquisition of interests shows that the gap between the results obtained

<sup>1/</sup> Public Enterprises in the European Economic Community, CEEP Review 1981, page 97.

<sup>2/</sup> Public Enterprises in the European Economic Community, CEEP Review 1981, page 25.



Table 1. Share of Italian Public Enterprises in Gross Product, Number of Employees and Fixed Investment in the Manufacturing Sector, 1976 - 1978

	<u>Gross Product</u>			<u>No. of Employees</u>			<u>Fixed Investment</u>		
	1976	1977	1978	1976	1977	1978	1976	1977	1978
1. Food and tobacco	12.4	12.7	12.8	18.8	18.4	17.8	11.2	12.4	12.6
2. Textiles, clothing, furs, leather, footwear, wood, furniture	2.2	2.0	1.7	2.9	2.9	2.9	4.2	1.5	1.6
3. Metallurgical	46.3	39.7	40.8	44.2	44.5	41.7	61.3	60.1	55.5
4. Mechanical	10.6	10.2	10.5	10.2	10.4	10.6	11.1	18.6	9.3
5. Transport construction	26.6	24.8	26.4	30.2	30.0	30.0	30.0	24.1	18.3
6. Processing of non-metalliferous ores	6.6	6.7	7.4	4.4	4.9	4.8	5.0	7.2	5.7
7. Chemicals, petroleum by-products and artificial fibres	10.4	10.2	10.8	10.0	10.3	10.5	12.4	9.8	10.2
8. Other manufacturing industries	5.9	5.6	5.7	5.0	4.7	4.3	5.3	4.2	5.7
9. Construction industries	10.4	10.6	10.7	6.0	6.8	6.8	22.1	17.3	20.7

Source: Public Enterprises in the European Economic Community, CEEP Review 1981.

for the public sector as defined in the National Accounts and the results relevant to the State's industrial properties as a whole is tending to widen ... (There is) an increased interpenetration of public and private capital".<sup>1/</sup>

The share of PEs in different sectors of the French economy is shown in Table 2. It is clear that the share of the public sector is predominant in the energy, transport and telecommunication and financial services sectors. In manufacturing the share of PE in employment was 6.5 per cent in 1979. The role of PE is significant in the mechanical and electrical industry as well as in chemicals. PE employment increased rapidly in the mechanical and electrical industry from 1973 to 1979. The role of PE is also significant in a number of other manufacturing branches including automobiles, rubber, shipbuilding, armaments and aircrafts. If account could be taken of public investment in mixed enterprises the PE share in the manufacturing sector would almost certainly appear larger than it does on the basis of figures presented in Table 2.

Developments in the public sector up to 1981 shows that PE have almost entirely been confined to branches in which they were already well established. In these branches they have no doubt played an important locomotive role in production, investment and employment; however without making further inroads into the large areas of the economy covered by other industries and in which they have for many years had a small or token presence or in some branches none at all.

The return of socialist government to power in 1981 has already led to the conception of an ambitious programme of public enterprise development. The government however remains committed to the expansion of co-operation between public and private enterprise. The net effect of the economic policy of the government has led to a growth in the influence of the public enterprises in the French industrial sector.

<sup>1/</sup> Gresch, M. "Les Enterprise publiques et la Creation de filiales", Economie et Statistique, No. 65, Mareli, 1965

Table 2. Share of Public Enterprise in  
different industrial sectors in France 1979

(Percentage)

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1. Energy	94.0
2. Transport and telecommunication	59.8
3. Total industry	6.5
of which: (Mechanical and electrical)	(13.5)
(Chemical)	(11.6)
(Agricultural and food stuffs)	(2.5)
4. Services and Commerce	1.3
5. Financial services	43.5

---

Total non-agricultural sectors	11.8
--------------------------------	------

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Source: Public Enterprises in the European Economic  
Community, CEEP Review 1981, page 23.

Public industrial enterprises play a limited role in the economy of the Federal Republic of Germany.<sup>1/</sup> Among the 50 industrial concerns with the largest turnover five were public industrial enterprises. In 1979 public industrial enterprises accounted for about 2.7 per cent of the total number employed in manufacturing industries, trade and transport and approximately 1.6 per cent of total gross fixed asset investment in the Federal Republic of Germany. In 1979 the Government had direct and indirect share holdings in 985 industrial holding corporations. There is a concentration of shareholdings in the following six enterprises: Salzgitter AG; Vereinigte Industrieunternehmungen AG (VIAG); Saarbergwerke AG; Industrieverwaltungs GmbH (IVG); VEBA AG; and Volkswagen AG (VW).

In the Netherlands PE accounted for 6 per cent of total workforce of the entire economy (excluding agriculture). PE is strongly represented in the transport and communication sector with 43 per cent of the total. In the industrial and energy sector the share of PE in the labour force remained stable around 6 per cent during the period 1976-1979. The relative share of PE in gross fixed capital formation declined from 14 per cent in 1977 to 11 per cent in 1979 mainly due to the industry and energy sector where gross fixed capital formation declined by 43 per cent between 1978 and 1979. In the Netherlands, like the other DMECs, government intervention may take a variety of forms and there is no statistical series which can authoritatively measure changes in the share of the PE sector in the economy.

In Belgium public industrial enterprises play a limited role in the national economy. The number of wage earners in public industrial enterprises relative to total employment in the manufacturing sector was limited to 0.2 - 0.3% during the period 1977-1979.<sup>2/</sup> Within manufacturing the most significant companies include the National Investment Company, the Office of Industrial Development, the National Company for Industrial Credit and the Regional

<sup>1/</sup> Public Enterprises in the European Economic Community, CEEP Review 1981, page 3-46

<sup>2/</sup> Public Enterprises in the European Economic Community, CEEP Review 1981, page 4-11.

Investment and Development Companies. The National Investment Company (SNI)<sup>1/</sup> was gradually changed into an industrial group by the reformatory law of 1978. The SNI functions as a development institute, public-economy initiative and as participatory in implementing government industrial policy. The performance of these three functions calls for "the application of sound industrial, financial and business management practice and a normal pay-off." Since its creation, SNI has held shares and convertible bonds in 387 companies for a total amount of 13,157.5 million Francs. Investment projects on behalf of public authorities have related to 66 firms for a total amount of 5,411.6 million Francs. SNI intervenes mainly in chemicals (13%), metal fabrication (11%), primary metallurgy (10%), transport (13%), paper and printing (7%) and energy (6%). The Belgian government also influences industrial development through the provision of financial assistance to private industry.

The foregoing review makes it evident that an assesment of the relative importance of PEs in the industrial sector of the DMECs is by no means an easy task. The main source of this difficulty is the diverse nature and form which State influence can take in the organization of production in modern market economies. Even the relatively rigorous category developed in Article 90 of the EEC Treaty which classifies as PEs "those undertakings over whose policies Member States may exert a special influence through granting special or exclusive rights or entrusting to them the operation of services of general economic interest"<sup>2/</sup> contains many ambiguities and wide difference exists in national classification schemes. Few internationally comparable statistics on the relative weight of the PE sector are available. It would thus be hazardous to make generalisations about changes in the relative weight of the PEs in DMEC industrial sectors: it cannot be denied however that in the European economies in particular

<sup>1/</sup> Public Enterprises in the European Economic Community, CEEP Review 1981, page 4-11.

<sup>2/</sup> Keyser, W. and Windle, R. Public Enterprises in the EEC: the United Kingdom and Ireland, p.v.

the PEs play an important role in sustaining industrial activity. They are present both in the growing and in the labour intensive, stagnating industries. However, they represent only one instrument which the State can use to influence the level of economic activity in the DMECs. The impact of the development of the PE sector may not constitute an accurate index for measuring the ability of the State to influence the national economy.

B. Impact of Public Enterprises on the National Economy of the DMECs

As indicated earlier, no internationally comparable statistics on the performance of PEs in the group of DMECs have been developed. This survey therefore limits itself to presenting estimates of changes in national level performance data and on drawing appropriate conclusions.

In the United Kingdom, the public sector enterprises in the manufacturing sector grew less slowly over the period 1960-1975 than the manufacturing sector as a whole in terms of output. Contraction in the public industrial sector employment was also more pronounced than employment contraction in British manufacturing. Within the manufacturing sector PEs have retained a strong position in iron and steel and in automobile manufacturing. The nationalized steel industry has made an important contribution to exports. Nationalized steel exports constitute 20 per cent of output, whereas the imports account for less than 10 per cent of the gross value of this industry. Substantial subsidies were provided to nationalized industries. In 1983 they are expected to cost the Treasury a cash figure of £2.7 million.<sup>1/</sup> More than 70% of total subsidies provided to PE during the period 1976-1979 (over £1,000 million annually) were paid to only two corporations viz. British Steel and British Rail.

The nationalized industries play an important part in the economy as suppliers and purchasers of inputs from the rest of the economy. In 1974-75 these industries generated a total plant and machinery expenditure of £1,120 million - 35 per cent of process plant and

<sup>1/</sup> The Economist, May 14, 1983, page 31.

70 per cent of telecommunication equipment was sold to the nationalized industries in the year 1974-75. The nationalized industries as buyers influence the investment policy of their suppliers in areas of product and technology development where international market opportunities are extensive. The export success of British Steel Corporation has resulted in a rapid growth of BSC's international subsidiary which offers both consultancy services and project management overseas.

The British nationalized industries are also key investors in research and development programmes. Typically, they are the leaders in technological innovation. This technological leadership of the nationalized industries is widely recognized.

The public industrial sector in the Federal Republic of Germany<sup>1/</sup> is fully integrated into the market economy. The government's investment policy is oriented towards private company concepts. Public industries operate on commercial principles like private enterprises with which they compete. Their role is important within the German economy in that many are associated in structural weak industrial sectors and in relatively depressed regions bordering the German Democratic Republic. PEs are an instrument for industrial restructuring by creating jobs in industrially depressed regions and by providing training opportunities for young people. The Salzgitter group, for example, has almost all its 56,000 jobs in depressed regions. While public industries do not play the leading role in technological innovation that is evident in Britain, they have recently extended their activities in the field of research and development. The employment generating potential of German PE is limited due to their narrow branch specification. As may be ascertained from Table 3, it is evident that PEs control a significant share of the market in many important

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<sup>1/</sup> Public Enterprises in the European Economic Community, CEEP Review 1981, page 45-47.

Table 3. Share of Public Industrial Enterprises  
in Total Domestic Production in Selected Sectors  
Federal Republic of Germany 1977 - 1979

	<u>1977</u>	<u>1978</u>	<u>1979</u>
	%	%	%
Hard coal	11.0	11.1	11.5
Lignite	6.0	5.6	5.4
Iron ore	78.0	45.6	45.7
Crude steel	9.6	9.5	9.5
Rolled steel	10.5	10.6	10.7
Pig Aluminium	50.3	49.9	49.7
Mineral oil	8.9	8.7	8.9
Electricity	24.0	23.7	24.7
Cars, estate cars	40.6	40.9	40.3
Shipbuilding	18.7	19.7	18.5
Hollow glassware	18.7	19.5	21.7

Source: Public Enterprises in the European Economic  
Community, CEEP Review 1981, page 46.



industrial raw materials, particularly iron ore and aluminium. It is thus clear that PEs are important as suppliers. However, there has been no nationalization in post-war Germany and even during the recent recession restraint has been exercised. The government's holding did not serve as a refuge for private enterprises in difficulty. For example when the privately owned German steel company Krupp recently faced financial troubles, it was not the German state that took a large share holding but foreign investment. German public industries have been able to show profits comparable to those of private enterprises with similar structure, partly due to government's foresight in providing adequate capital structure in PEs when needed. These measures significantly improved their competitiveness.

The role of PEs in the French industry dates back to 1674 with the establishment of the State tobacco monopoly, originally a revenue-oriented device, followed by the manufacturing of gobelins, tapestries and porcelain all of which are still state owned.<sup>1/</sup> Table 4 shows that today the French PEs are predominant in a wide range of industries and are likely to be important, both as suppliers and users of industrial output. Since many PE enterprises are heavily capital intensive an investment expansion programme within this sector usually makes a significant contribution to technological innovation. Some French PEs have also played an important role in export expansion programmes - particularly within the car, chemicals and electrical engineering industries. During the period 1976-80 government policy encouraged efficiency and cost-effectiveness in the context of increasing international competition and reducing subsidiation by the State. The enhanced commitment of the socialist administration to French public enterprise has meant that the Government is paying increased attention to support public firms in economically vulnerable sectors such as steel and automobile manufacturing. This has led to a significant increase in the state financing of French public enterprises since 1981. Due to substantial losses the Government has

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<sup>1/</sup> The Economist, January 29, 1983, page 51.

Table 4. The Place of PEs in the Production of  
Goods and Services in France 1973

<u>Estimated share of PE in total production</u>	<u>Categorised situation</u>	<u>Products concerned</u>
More than 80	Monopoly	Manufactured tobacco Matches Coal Lignite and briquettes Electricity Natural gas Telecommunication
Between 40 and 80	Very important	Coke products Aircrafts Armaments Transport equipment Misc. minerals
Between 20 and 40	Important	Crude petroleum Cars Petrochemicals Health services
Between 5 and 20	Secondary	Domestic equipment Organic chemicals Transport services Housing

Source: Keyser, W. & Windle, R.(ed.),  
Public Enterprises in the EEC: France, p.34.

increased its estimate of what the nationalized industries will need in the next three years (from 1983) to FFr. 50 billion (\$ . 7 billion).<sup>1/</sup>

In Italy the PE sector accounted for 20 per cent of gross product. They were mainly concentrated in highly capital intensive sector, and provided 16 per cent of total employment and 34 per cent of total investment in 1978. Investment is concentrated in iron and steel, telephones, hydrocarbons and motorways. There is thus a heavy concentration on basic infrastructural industries. Data available for the period 1975-78 suggest that there has been a consolidation of the role of the public sector within the national economy associated with a considerable increase in the proportion of employment in PE relative to the national total. Some PEs such as Fiat have played an important role in sustaining Italy's export drive. The state-owned Institute for Industrial Restructuring (IRI) established in 1933 has become the largest industrial employer in Europe with half a million employees.<sup>2/</sup> Other PE are also likely to be of considerable significance as suppliers of industrial inputs and users of the output of Italian manufacturing sub-sectors. It was however not possible to obtain hard data to determine the contribution of the Italian PEs in terms of growth, employment, export expansion or technological innovation.

In Netherlands, the share of public enterprise in the industrial and energy sector remained stable in terms of employment but declined sharply in terms of gross fixed capital formation (1976-1979). PE industrial turnover increased by 11.1 per cent annually during the period 1976-1979<sup>3/</sup>. PEs made substantial profits every year during the period 1968-1974, but were hard hit by the recession and for the first time in ten years they made a net loss in 1975. Dutch PEs are also mainly concentrated in the basic industries and in mining and can thus be important contributors to sustaining the pace of industrial development in the Netherlands.

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<sup>1/</sup> The Economist, May 7, 1983.

<sup>2/</sup> The Economist, January 29, 1983, page 51.

<sup>3/</sup> Public Enterprises in the European Economic Community, CEEP Review 1981, page 107-113.

In Belgium, the PE sector has played a relatively minor role in the State's industrial policy. The main instrument of the public sector in the field of industrial development is the National Investment Company (SNI). Its investments have been growing and it has sought portfolio diversification. State aid to private firms such as ACEC, Val Saint-Lambert Fabelta, Materne and Glaverbel has also increased substantially since the onset of the recession. The distribution of SNI investment by sub-sector is presented in Table 5. Due to the fact that in the vast majority of cases SNI was a minority shareholder, it is extremely difficult to estimate the impact of its investment on production, employment, capital formation or on the export performance of the Belgian manufacturing sector. State influence on the manufacturing sector is also accentuated by the flow of State aid, details of which are presented in Table 6. Assistance is concentrated in the chemicals, base metals and metal products branches. They are important sectors in Belgium manufacturing. In the early 1970s they accounted for 40 per cent of the value added and 60 per cent of gross capital formation in manufacturing.

In Austria, state owned companies are an important part of the industrial sector. They are organized as subsidiaries of a holding company named OIAG (Österreichische Industrieverwaltungs - AG). In Austria, 45 per cent of the output of the public enterprise sector was produced by firms located in the iron, steel and aluminium industries in 1980. The Austrian iron and steel industry has been deeply affected by the present recession and has received massive capital infusions from the government's budget. Contraction of the steel industry has led to serious job losses in the Austrian province of Styria where 50 per cent of the working population are employed in the steel industry. Public enterprises have been conscious of the need to defend jobs and maintain output levels. The public steel

Table 5. Belgium Distribution of SNI Investment  
by Manufacturing Sub-sector  
30th September 1976

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	Amount BF 1 million
Food	280.1
Textiles	246.0
Glass	75.0
Wood and plastics	87.1
Paper and printing	392.9
Chemicals	407.8
Oil	4.4
Basic metals	666.0
Engineering	783.1
Energy	427.9
Building	162.6
Transport	424.9
Finance	522.5
Other	291.4
Total	4772.4

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Source: Keyser and Windle, Belgium, p.73.

Table 6. Public Aid to Belgium Industry 1962-70

In BF 1 million

	Investment assisted	Employees
Mining	2837	776
Metallurgy	80572	14232
Metal products	106644	141207
Chemicals	135005	37469
Textiles	28327	48805
Food	25002	16304
Wood	9260	15876
Construction material	30228	23206
Others	22272	13301
Total	440147	311206

Source: Keyser and Windle, op.cit., p. 18.

firm Voest-Alpine, has launched a programme of intensive product diversification. In 1980, 47 per cent of its output consisted of finished products. This has enabled it to minimize job losses and achieve orderly, structural adjustment by transferring workers from declining to expanding product areas.

State owned companies have contributed greatly to the development of parts of the biochemicals and electronics industry in Austria. ÖIAG played an active role in the establishment and financing of an electronic development centre at Villach, in co-operation with Siemens Austrian (in which the state has an equity stake of 43 per cent).

Although ÖIAG is owned entirely by the state it encourages its subsidiaries to establish joint ventures with private enterprise. Equity participation in the private sector is undertaken with a view to increase market access and technical know-how and also to prevent the closure of private firms that are of regional importance. Joint ventures have also been established with foreign firms in the computer and electronics industry.

It would thus appear that although direct state ownership is not the norm in the manufacturing sectors of the DMECs, an increasing intertwining of public and private ownership forms is indeed taking place. This trend may represent an increasing role of the state in industrial entrepreneurship. On the other hand, it may also be construed as "privatisation" of the state's industrial initiative. Which of these two scenarios is actually realistic depends upon the extent of state control over its public enterprises and on the extent to which they articulate their corporate strategies in accordance with market dicta. In other words, we have to ask the question: Are public enterprises in DMECs subject to "the Law of Planning" or are they subject to the "Law of Value"?

Our search for an answer to this question begins with a description of the formal structures of control over public enterprises in developed market economies.

C. Formal Structures of Control by DME States of Public Enterprises in the Industrial Sector

Once again the DMECs present a rich and varied set of experiences as far as the relationship between PEs and governments are concerned and broad generalizations can prove hazardous. A rapid review of arrangements in the leading DMECs may prove a useful starting point for assessing similarities and differences in the relationship between the national government and the PEs in the different DMECs. The nature of this relationship depends upon the economic ideology espoused by the governing elite and the historical experience of the country concerned in using PEs as an instrument for the achievement of specific policies. Prima facie one would expect the relationship of PEs and central government in France and the United States for example to show significant differences because, whereas state planning is a legitimate tool of economic management in France and has indeed acquired increased legitimacy with the new socialist government, it can be described as alien to the economic "culture" of the USA. The development of the system of controls which encompasses state-PE relationships is thus rooted in the history and the ideology of economic evolution adhered to by specific countries.

In France, the state "system of control" is rooted in ancient traditions. Control over PEs is generally regarded as relatively rigid. Thus the celebrated Nora Report of 1968 argued strongly for a dismantling of many control structures and for making the PEs agents bearing management and risk-taking responsibilities. This could come about if the PEs became increasingly financially independent of the state and if their operations were relentlessly subjected to the "law of the market". In practice, French authorities have opted for a subordination of the PEs to Government. French control



of PEs is (a) governmental, (b) parliamentary, and (c) judicial.

Governmental control - which is the most important regulatory mechanism influencing the operations of PEs - may again be subdivided into (a) ministerial, and (b) specialized commission control: Ministerial and government departmental control is continuous and all pervading.

The Ministries are responsible for

- (a) the establishment of PE objectives;
- (b) the prescription of assumptions and criteria for use in corporate planning and in determining pricing and investment behaviour;
- (c) the indication of general constraints that the enterprise has to conform to in relation to its employment, location and supply policy.

These objectives, criteria and constraints are established through dialogue between the PEs and the responsible Ministries. This process called "concertation" involves interchange between experts, bureaucrats, politicians and representatives of outside interests at many levels.

The ultimate responsibility rests with the Ministries. Ministries also exercise specific controls with respect to given enterprise - these are determined by relevant legislation. Usually PEs require ministerial approval for

- (a) revenue budgets and forecasts;
- (b) balance sheets, profits and loss accounts, etc.;
- (c) acquisition or enlargements of interests;
- (d) issue of loans.

In general there is also an obligation to seek approval for the entire annual programme but Renault and many other manufacturing PEs - particularly those not owned directly by the state - are exempt. The government tends to control PE prices (in relation to costs) more strictly than prices within the private sector. Ministries and departments engage in a constant appraisal and reappraisal of the

performance of PEs. A vast and complex institutional mechanism has evolved to enable the Ministries to exercise these controls.

The French Government has also from time to time established specialized commissions to control different PE sectors. In the field of Industry and Commerce the Commission Central des Marches is engaged in producing an annual report on enterprise performance and in policy formulation, organization of joint purchasing arrangements, promotion of standardization etc. Although the recommendations of the Commissions are not legally binding, it exercises considerable influence.

The French Parliament has shown a keen desire to become involved in the PE control system particularly during the recessionary period. Theoretically, Parliament's principal control is financial. Its approval is required for appropriation of funds for meeting PE costs. Parliament uses its financial opportunities to scrutinize the policies and performance of specific PEs and to recommend changes in strategies and structures. The implementation of these recommendations is however the responsibility of the Government.

Control over PEs is also exercised by judicial authorities because French PEs are in general subject to private law. Special legal control is also exercised by administrative tribunals such as the Court of Audit, the Court of Budgetary Discipline and Finance and the Commission for the Control of Banks. The Court of Audit is one of the great French legal institutions with a strong ability to circumscribe and determine the legal obligations of the PEs.

Governmental control over the French PEs is diversified in the sense that there is a large number of authorities and Ministries involved in the exercising of this control. However, overall PE control is tight due to the extensive legal requirements for a priori sanctions, the practice of "concertation", governmental and parliamentary power over financial questions, the high level of representation of

civil servants in PE Boards of Directors and the frequent secondment of State Commissionaires to specific PEs.

General guidelines were laid down by the Government in 1977 calling for a clearer definition of objectives, the preparation of a multi-annual corporate plan by each enterprise, the signing of specific "planning agreements" between the state and the largest public enterprises and the drafting of medium-term guidelines for the public sector. Parallel herewith a number of structural reforms have occurred in recent years. New enterprises have been set up with various combinations of public and private investment. Some public enterprises have had their constitutions amended to give greater flexibility or to allow limited acquisition of equity holdings by private investors.

The return of a socialist Government to power in 1981 led many to expect a substantially tighter control of public enterprise by the State. This has in general failed to materialize and the extent of supervision and control has not changed dramatically. The system of state-enterprise relationship described above remains largely intact. There has been a large-scale expansion in state financing but this is mainly due to recessionary pressures and not an expression of the desire to expand state control over private enterprise. The previous administration spent \$3 billion to salvage steel public enterprises in the massive subsidisation programme of 1978. The present administration remains committed to promoting co-operation between public and private enterprise - since 1980. Private participation of up to 25 per cent in some public industrial ventures has been permitted in France, and this has meant that enterprise autonomy within the public sector has not been adversely affected.

In the Federal Republic of Germany PEs may be divided between those under private law and those under public law. In the former category are stock corporations, private limited companies and co-operative

societies in which the Government directly or indirectly owns at least 25 per cent of the equity. The Federal Ministry of Finance is responsible for many of such PEs.

In the latter category are PEs which are economically independent entities but are in the exclusive majority ownership of the Federal Government. As far as the industry and manufacturing sector is concerned, one of the most important of this group of German PEs is the European Recovery Programme which is concerned with the promotion and financing of small and medium scale enterprises (specially in shipbuilding). Included within this category are also enterprises which, though economically independent, are without a legal personality. They are legally subordinated to the Federal Ministries of Finance, Transport, Telecommunications, Agriculture and Defence. They are commercially oriented, develop their own corporate plans and only their net balance of accounts appears in the Federal budget.

Control over PEs in the Federal Republic of Germany is exercised through Parliament and the government. Parliament has laid down conditions determining Federal entrepreneurial activities. Parliament is also formally responsible for the auditing of the PEs. Eleven Federal ministries are involved in the administration of the PEs. In many cases a number of ministries have to co-ordinate for the purpose of PE administration. The Federal Ministry of Finance is responsible for overseeing the responsibilities of individual Ministries. The Minister of the Budget is ultimately responsible for the financing of the PEs. His permission has to be sought before shares are bought or sold, or any changes are made in the original size of capital. The Ministry of Finance has drafted a "code of conduct" for PE administration. It is the main guide for departmental administration and senior management practices.

Most Federal enterprises are joint stock companies. The Federal Government exercises control through creating an identity of interests between PE management and the Government. In PEs that do not compete with private institutions an organic relationship is carefully built into government aims and management statutes. In the case of PEs which face commercial competition, the Federal Government accepts that PE management, while not forgetting its "public" responsibilities, will be more responsive to market dicta.

A department of the Federal Ministry of Finance is responsible for the administration of the Federal industrial companies. It prepares for supervisory board meetings, informs the supervisory boards of the political objectives of the Government, prepares and approves the corporate strategy, gives consent to expansion in federal holdings etc.

Federal public enterprises that operate in competitive markets are encouraged not to discriminate in favour of other PEs, to diversify information, to establish competitive prices and to articulate investment policies on the basis of market opportunities. It is this emphasis on the over-riding importance of market criteria as a determinant of corporate behaviour that has created organizational similarity in the control structures of public and private enterprises in the Federal Republic of Germany, despite the fact that a number of parliamentarians and civil servants sit on the board of directors of the German PEs. Indeed, the principal means of control of PEs by Government is the Minister's power of appointment to supervisory boards. The Government has however consciously avoided domination of these boards. There is also an emphasis on the presence of experts within these boards. These practices have tended to ensure that there is a commonality of perception and interests between governmental and non-governmental board representatives and at least until the later 1970s this has

been cited as a major factor accounting for the persistent profitability of the major German PEs.

In Britain the Government influences PE behaviour through four main mechanisms:

- (a) major strategy reviews;
- (b) annual reviews of corporate plans and investment programmes;
- (c) project approvals;
- (d) financial controls.

Strategy reviews provide opportunity for different governments to change the orientation of specific PEs. Such reviews have thus been resorted to when a Labour administration has replaced a Conservative one or vice-versa. These reviews are directed by the Department sponsoring the relevant nationalized industry but usually include trade union representatives and representatives of the Treasury and other government departments.

The annual investment plans generally have a statutory basis. They are presented to the Minister of the sponsoring department and are evaluated by the Treasury. The investment plans are reviewed as a part of the overall corporate strategy which also has to be approved by the Treasury and the sponsoring department. An attempt at forward planning is included in these surveys and tentative ministerial approvals are given for projects stretching over a four-year period. However, the public expenditure cuts imposed by the present Government have been the cause of many such reviews.

PEs are expected to prepare project evaluation data on agreed lines. These are approved by the sponsoring department alone or by it in association with the Treasury. Both the department and the Treasury are involved in the approval of financial arrangements. They arrange external financing. Parliamentary approval has to be sought for grant finance and the issue of public dividend capital.

It has been noted that the form of Government control on PEs has created tension within the system. PE managers feel constrained by the level of ministerial control. Parliamentary Select Committees have shown that although in theory day-to-day administrative responsibilities are supposed to lie with PE management, in practice there are many concealed pressures which inhibit management from taking decisions strictly on the basis of commercial viability criteria. Moreover, PE management is also frustrated due to the conflict of interests between the sponsoring ministry and the Treasury which has effective financial control. Management is also constrained by the necessity to meet "financial targets" stipulated by Government agencies from time to time.

In the late 1960s a Government sponsored study of the British PEs showed that there was a lack of trust between PE managers and responsible Government officials. This has sometimes led to a confusion of the roles of the Management Boards, the Ministries and Parliament and thus blurred accountability processes. A system of ensuring continuity in corporate strategy and for a realistic assessment of the performance of the nationalised industries had not satisfactorily been worked out according to this study.<sup>1/</sup> In general, the study is sympathetic to the idea of increasing managerial autonomy and the influence of market forces in the determination of corporate strategy within the PE sector.

Important changes have taken place in the institutional, financial and economic framework for nationalized industries following the Government White Paper published in 1978.<sup>2/</sup> The principal changes relate to improving the control procedures over the use of resources. Financial targets were to be set for each nationalized industry and general guidelines were stated for primary policy and the use of test discount rate, implying that nationalized industries

<sup>1/</sup> H.M.S.O. The Role and the Control of the Nationalized Industries in the Future, November 1976, London, Chap. 2

<sup>2/</sup> Public Enterprises in the European Economic Community, CEEP Review 1981, page 116.

must seek to make a real rate of return of 5 per cent on all new investments. The industries were also required to publish performance and efficiency indicators, disclose details of their corporate plan, and financial targets. The White Paper also re-affirmed that public industries would not be given direct access to the financial markets for borrowing other than short-term. Since the publication of the White Paper the short-term problems of reducing the public sector deficit has taken priority over the implementation of medium-term financial targets. The setting of external financial limits is now the most important government instrument. In 1979 the government announced that it wished to raise fl,000 million from the sale of public sector assets.

In Austria, ÖIAG, the public sector holding company, has been given a controlling and financial function. Its subsidiaries are organized as joint stock companies and have considerable operational autonomy. ÖIAG is concerned with the approval of final reports, appointment of top management, acceptance of investment decision, approval of acquisition or establishment of new companies and supervision of a Five Year Plan which has to be drawn up by each subsidiary and which incorporates investment, production, financial and marketing targets. The relationship between Government and public enterprise is characterized by relatively little political interference. Before the establishment of ÖIAG in 1966, ministerial interference in the running of PEs had been common, but this has largely been eliminated.

Currently, Austrian PEs are subject to a control system similar to that of private enterprise. Control is exercised by supervisory boards and a national court of Accounts (Rechnungshof). At ÖIAG's general meeting the Federal Chancellor represents the state. An annual report is also submitted to Parliament. Top managers of ÖIAG are appointed to the supervisory boards of subsidiaries - which also



include shop stewards and worker delegates. An attempt is made to maintain a continuing dialogue between different groups of managers and employees with a view to increasing the efficiency and profitability of PEs. Despite a complex control structure, public enterprises in Austria, pay great attention to market dicta.

This general trend in favour of increasing the "market orientation" of PEs, particularly those within the industrial and manufacturing sectors has become markedly evident in the case of many DMECs. Enterprise management has generally envisaged that performance can be improved substantially if market dicta are taken more seriously and government constraints on corporate strategy are liberalized. Indeed, it has often been argued that financial targets specified by the Government cannot be met without substantially increasing organizational autonomy. PE management has thus consciously worked for opting out of the state control system in order to become - or remain - commercially viable. This has meant that there has emerged a gap between the PE-Government relationship as described in the relevant legislation and government documents on the one hand, and the PE-government relationship that has actually evolved within the economy of the DMECs on the other.

In the next section we will take a closer look at the actual practice of the management of the relationship between Government and the PEs in the British economy. This will allow us to evaluate the effectiveness of the formal control structure that has been described here.

D. Government-Public Enterprise Relationship in the British Economy:

A Case Study

The evolving relationship between PEs and government can best be evaluated in relation to specific issue areas. A series of such issues are examined below.

1. Pricing: The Government argues that "nationalized industries revenues should normally cover their accounting costs in full...

pricing policies should be derived with reference to the costs of the goods provided...prices need to be designed to promote efficient use of resources...long run marginal costing is recommended as a basis for pricing". (Command 3437, Paragraphs 17, 18, 21). Nationalized industries do try to set prices which enable them to cover their accounting costs. Government policies, however, sometimes inhibit pricing on this basis by disallowing price increase, which PE management feels is essential. In general, Government has tended to moderate PE price increase, delaying these increases or changing their pattern of distribution. The British Steel Corporation (BSC) has often complained that the government has prevented it from pursuing a realistic price policy. Some PEs such as British Rail face market conditions which prevent a full passing on of costs to the customer in the form of increased prices. Price structures of nationalized industries are also influenced by cross subsidization both geographically and between different product areas - this is clearly evident in the case of the pricing policies of British Post and Telecommunication services. Cross subsidization is also evident in the pricing policies of British Gas. Manufacturing PEs do not however engage in cross subsidization to any significant extent.

Nationalized industries - including manufacturing PEs - do not base their prices on short or long run marginal costs. BSC investment proposals are however influenced by long run marginal cost considerations. PEs which are monopolies adhere to average cost based pricing. Manufacturing PEs determine prices on the basis of market conditions and opportunities.

In general, it can therefore be concluded that the pricing behaviour of PEs is not in accordance with government recommendation and expectations. Changing market conditions and government policy

itself contribute to this discrepancy in the theory and practice of PE behaviour in the United Kingdom.

2. Investment: Command 3437 stipulates that investments undertaken by PEs must in principle be capable of realising a commercially realistic rate of return. Discounted cash flow techniques are recommended as a basis for evaluating investment projects. Social costs and benefits are to be taken into consideration in evaluating projects where appropriate. The projects are expected to be shown to be viable on the basis of an evaluation based on a "test rate of discount which represents the minimum rate of return to be expected on a marginal low risk project undertaken for commercial reasons" (Paragraph 9).

In general, nationalized industries and other PEs use discount cash flow techniques and the "test rate of discount" applied wherever appropriate. However a full investment appraisal is carried out only for a small proportion of investment projects. A high proportion of replacement investment is regarded as "inescapable". Appraisal of this "inescapable" investment is based on cost minimization criteria and the test rate of discount is used only in the comparison of alternatives. In the manufacturing sector PEs - including BSC and British Leyland - there is a greater resort to full scale investment appraisal than in other PEs. However, government involvement in investment appraisal is limited to only major projects undertaken by the manufacturing PEs. Five year investment programmes have to be presented by the manufacturing PEs to the Government. Firm approval is given for the expenditure of the first two years. In the case of BSC, for example, a two-year investment cycle is impractical. Long term financial commitments have to be made. However, except perhaps under the present administration, the securing of government approval which proves fairly firm over a relatively long time period has not proved a problem for the major manufacturing PEs. The present

administration is officially committed to "de-nationalization" - the selling of shares of PEs to the private sector - and this has meant a tighter control on investment. Thus within a period of 20 years for example the steel industry in Britain has been nationalized, denationalized, renationalized and is now due for re-denationalization.<sup>1/</sup>

3. Financial performance: The government is committed to setting financial objectives for PEs to serve as "an incentive to management" and as an evaluation criteria. Financial objectives have been set for many manufacturing PEs including BSC - but they have sometimes been allowed to lapse because of restraints imposed by Government on pricing policy. For British Gas the self-financing ratio has become the most important financial indicator of performance. The other financial targets imposed by the government have receded in importance.

As far as the manufacturing PEs - notably BSC - are concerned, the pursuit of financial objectives seems to have little impact on price policy. The monopolies on the other hand can afford to indulge in "cost plus pricing" and the meeting of financial targets is an important determinant of price policy as far as these enterprises are concerned. However, the establishment of financial objectives has not usually been an adequate means of taking into account the production and distributive requirements of monopolistic PEs. It is also not clear as to whether the financial objectives specified do in practice provide managerial and entrepreneurial incentives, given the relative ease with which they can be side-stepped.

All in all it appears that although the British government does provide general guidelines for corporate behaviour in the PE sector, these enterprises have considerable leeway in interpreting these guidances in accordance with changing economic and market conditions. The incumbent British government is more committed than any of its

<sup>1/</sup> The Economist, January 29, 1983, page 52.

predecessors to liberalizing the control system and to ensuring that PE production, pricing, investment and employment policies are based on market dicta.

The performance of manufacturing PEs - particularly BSC and British Leyland (BL) - has been generally unsatisfactory over the past. There is a consensus that most of these enterprises are relatively inefficient - they do not use the optimum amount of labour and capital per unit of output. Pricing and production policies are also generally viewed as deficient. They practice average cost pricing and engage in cross subsidization. The recession has hit the manufacturing PEs particularly hard.

During the 1960s the Government's insistence that PEs behave as commercial enterprises and meet financial targets paid some dividends. The financial targets contributed to improved profitability and to the adoption of better methods of evaluating investment. The financial targets were not set, however, with specific reference to the pricing and investment policies of the PEs concerned. This reflected the fact that the Government's ability to control PE behaviour was limited. Advice for adherence to marginal cost pricing was generally ignored. Some of the lack of PE response to the Government's suggestions can be attributed to the weakness of these suggestions, and the haste with which Government proposals were revised. Thus the 1967 British Government White Paper was heavily criticised within the Cabinet as a document not well thought out. The imposition of price and wage restraints reflected not the needs of the PEs themselves but were part of the macro-economic strategy of incumbent governments and thus were not by their nature related to the task of improving the efficiency of the nationalized industries. There was a recognition of this fact in legislation enacted during the 1970s under both Conservative and Labour administrations to compensate nationalized industries for the losses imposed upon them as a consequence of the

pursuit of an anti-inflationary macro-economic strategy by the Government. The subsidization programme gained rapid momentum throughout the 1970s and had an impact on corporate performance throughout the public sector. The gradual improvement that had been evident in the performance of the public enterprises in the closing years of the 1960s decade slowly petered out. By the late 1970s the financial performance of the PEs had shown marked deterioration. The reduction of governmental subsidization during this period was accompanied by the lifting of restraints on price controls. The Government's "lame duck" rescue policy was gradually being replaced by a policy once again emphasising the role of market dicta as a determinant of PE investment and production behaviour. The Government White Paper published in 1978 had significant economic and financial implication upon the investment behaviour and performance of PE. During the Labour Government the main pressure put on the nationalized industries was to maintain high employment levels and good industrial relations. It has been argued that this policy militated against the reduction of over-manning and the pursuit of economic restructuring within the nationalized industries in accordance with changing national and international market requirements.

The pursuit of a multiplicity of objectives and the relatively arbitrary subsidization policies have it is argued served to lower management morale with the PE sector. It has also lowered their sense of responsibility. It has been easy - as in the case of BSC - to blame poor performance on the government-imposed policy of price restraint and to ignore issues related to organizational inefficiency. The frequent changes and abundant inconsistencies of government policy have made public accountability of PE management very difficult. Although PEs have been subject to extensive controls, there has been remarkably little discipline.

The present Government has insisted that manufacturing PEs should behave strictly in accordance with market dicta. It has

strengthened the hands of PE management vis-a-vis Unions - the case of BL is particularly instructive - and encouraged a reduction of over-manning and the undertaking of fundamental restructuring. It has not found it politic, however, to drastically reduce subsidization and this has meant that some contradictions in its policy vis-a-vis state enterprises has continued to persist.

E. Some Conclusions

The role of public enterprise within the DMECs is best understood within the context of the analysis conventionally employed not by neo-classical economics but by political economy. It must be recognized that PEs are instruments of both economic and political management. They have come into existence for reasons which neo-classical economics likes to associate with the concept of "market failure". This "market failure" is a relatively persistent feature of modern mixed economies. At one level it reflects the growing concentration of economic power and the hierarchic structuring of economic decision-making processes. This has led to a persistent movement away from economic solutions that can be viewed as "optimal" from the perspective of neo-classical economics which regards "perfect" competition as the rational norm. This theoretical assumption of market "perfection" - and its approximation in the practice of market orientated economic management - is fundamental for the survival of liberal and social democratic regimes. If the "market" no longer aspires towards "perfection" it can no longer be shown to make a contribution towards enhancing the economic freedom and the material prosperity of the 'disinherited' masses. The state has therefore to intervene in such situations to rescue those economic activities from the "market" which are essential "merit goods" producers. It is inevitable that as economic concentration increases the range of these activities will tend to increase.

This growth of the PE sector does not however mean that it will necessarily assume an antagonistic posture vis-a-vis private enterprise. We are seeing an increasing interpenetration of public and private enterprise in DMECs. It is indeed by no means an easy task to demarcate the boundaries of public and private enterprise in a modern DMEC. The private enterprises have in all but a handful of cases lost their classical "private" character. They have been profoundly affected by a "managerial" revolution which effectively separated ownership from control. This has ensured that the largest "private" enterprises of DMECs are dominated by managerial bureaucracies that do not in their orientation and in their relationship to the ownership of their enterprises differ significantly from the managerial bureaucracies of the PE sector. A growth of convergence in the objectives and strategies of private and public sector management bureaucracies is perhaps inevitable.



CHAPTER III. THE ROLE AND FUNCTION OF THE PUBLIC INDUSTRIAL SECTOR IN INDUSTRIAL DEVELOPMENT IN THE EUROPEAN CENTRALLY PLANNED ECONOMIES\*

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by

ZOLTAN POMÁN\*\*

A. The Conceptual Basis of the Public Industrial Sector

Seven countries belong to the category European centrally planned economies: Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Romania and the Union of Soviet Socialist Republics. The seven countries show both fundamental common characteristics such as the social ownership of the overwhelming part of the means of production and the central planning of the economy - and significant differences in size, level of development, institutional set-up as well as in the system of economic management. They have close political and economic ties. All are members of the community of the Council of Mutual Economic Aid (CMEA) (including also 3 non-European countries: Cuba, Mongolia, Viet Nam), but their trade and contacts with the rest of the world are significant, too.

The nationalization of the industry in the Soviet Union in 1917 was a single act but the development and implementation of the system of economic management with its focus on central planning required many years and is still subject to improvement. The nationalizations and the transformation of the economy in the other six countries of this group took place after World War Two in a period of economic reconstruction and struggle for political power. These measures were motivated by different economic, social, and political considerations and also inspired by the example of the USSR.

The idea of the possibility of and need for uniform solutions was soon dropped and now within the group of the centrally planned economies there are remarkable differences in the system of economic guidance and,

\* The views expressed in this paper are those of the author and do not necessarily reflect the views of the Secretariat of UNIDO.

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consequently, in the statute and functioning of the public enterprises. In the early post-war period Yugoslavia abandoned the traditional methods of central planning based on Soviet experience and introduced a special system of self-management<sup>1/</sup> Other CPEs have also been experimenting with different organisational forms.

In the centrally planned economies the principles of the system of economic management are based on the thesis that the social ownership of the means of production is a necessary and inevitable stage of historical development and the sine qua non of the construction of a socialist economy and society. This involves the collectivization of agriculture and the nationalization of industry and the other sectors of the economy. Collectivization is a long process, the nationalization of the industry, however, can and must be implemented faster. This permits a control of the strategic sectors, the "commanding heights" of the economy, and induces additional motivation for better work.

In the light of the historical experience of many decades quite a number of the elements of the socialist model of development have been modified, but the need for the social ownership of the means of production has never been questioned. All efforts were, and still are, focused on the problems related to development of an efficient system of economic guidance. This has led to the introduction of reforms. There is increasing diversity in the processes of economic management. In some CPEs more importance has been attributed to the supplementary functions of the co-operatives and the private handicraft sector but state-owned sector dominates the industrial structure of each CPE.

CPEs are committed to social ownership of the means of production and to organisation and management of production in economic units. After a short transition period the Soviet Union introduced the so-called hozrashchot (independent accounting) system, in which the enterprises are treated as responsible legal entities liable to give account of their

<sup>1/</sup> A review of the Yugoslavian system of social ownership and self-management is presented in Chapter V, pages 239, 240.

activity in a statement of balance, with the obligation of balancing their expenses and receipts so as to gain profit.

Profitability has played an important role in the hozrashchot system in the centrally planned economies. However, the major performance criterion has been the fulfilment of a set of obligatory indicators of the plan with special regard to the increase of the volume of output and labour productivity. From the sixties onwards the necessity of giving more initiative and enhancing the autonomy of the enterprises has also been recognised. Subsequently it has become clear that (i) the details of the operational tasks of the enterprises cannot be centrally determined in a consistent way; (ii) the signaling and orienting role of the commodity and market relations, prices and profits should be increased and (iii) latest research has revealed that the relative importance of the specific organisational goals must be taken in due consideration. As a consequence in all centrally planned economies the role of money, prices, and profits as determinants of resource allocation, has been accentuated and the number of compulsory plan indicators reduced - but not in the same way and not to the same extent. The European centrally planned economies now show marked differences with respect to the extent to which their enterprises are subject to obligatory targets derived from the central plan, how many and of what type, and with respect to the actual role of directives, market relations and forces, prices and profits.

B. The Public Industrial Sector: Industrial Goals and Policies

The share of agricultural earners in 1950 was 27 per cent in the GDR, 39 per cent in Czechoslovakia, 48 per cent in the USSR, 52-54 per cent in Hungary and Poland, 74-80 per cent in Romania and Bulgaria. In the post-war period all these countries followed the policy of rapid industrialisation. Their agricultural employment shares in the next three decades sharply declined. Industrial employment increased significantly. The share of industry in the national income currently varies between

47 per cent (Hungary) and 65 per cent (GDR). These figures, though very much dependent on relative prices, clearly indicate the significance of industry in these countries.

Nearly 100 per cent of the total industrial output is produced by the socialist sector and 87-97 per cent by the state-owned sector. The socialist sector includes in these countries (i) the state-owned enterprises, (ii) the co-operatives and (iii) the auxiliary activities of the former two categories. The share of the co-operatives' output varies between 2.4 and 11.1 per cent. The share of private handicraft does not exceed 2.7 per cent. The auxiliary activities mentioned above are not significant in industry but important in agriculture and house construction.

In all European centrally planned economies, both the manufacturing and the total industry sectors consist predominantly of state-owned enterprises. The figures in Table 1 may be an underestimate as they exclude data on the agricultural co-operatives which also perform industrial activities, primarily but not exclusively food processing. The share of their output is different by countries, in Hungary it is increasing and now amounts approximately to 5 per cent of the output of socialist industry. (Table 2)

The shares of the state-owned enterprises and the co-operatives are not the same by branches. We can assume that in this respect the differences by branches in the Hungarian industry are more or less typical: there are no co-operatives at all in mining and electricity; their contribution is negligible in the production of basic materials but substantial in a number of other - mostly consumer goods - branches such as fabricated metal products, processing of plastics, furniture, leather, footwear, clothing etc.

All these countries consider industry to be the most dynamic sector of the economy and are aiming at possible high growth rates of industrial output. Besides growth, however, economic stability is also regarded to be an important objective. They are particularly concerned with maintaining a surplus on the balance of foreign trade payments. This

Table 1. The share of the socialist and state-owned sector in the European centrally planned economies, 1978.

Indicator	Bulgaria	Czecho- slovakia	GDR	Hungary	Poland	Romania	USSR
The share of the socialist sector							
- in national income/Net Material Product/	99.9	99.5	96.2	98.1	83.4	89.7	100.0
- in industrial output	99.8	100.0	97.3	99.4	98.2	99.8	100.0
- in agricultural output	99.8	97.0	95.7	96.2	22.7	87.9	100.0
The share in the industrial output of the							
- state-owned enterprises	95.8	97.6	92.5	92.9	86.7	96.1	97.6
- co-operatives	4.2	2.4	4.8	6.5	11.1	3.7	2.4

Source: CMEA Statistical Yearbook

Table 2. The share of the social sectors in the Hungarian industry by different indicators, 1978

Indicator	%				
	State-owned enterprises	Co-operatives	Socialist sector	Private handicraft	Total industry
Gross value of output	92,8	6,6	99,4	0,6	100,0
Net value of output	89,0	9,7	98,7	1,3	100,0
Employment	83,9	13,6	97,5	2,5	100,0

Source: Hungarian Statistical Yearbook.

balance usually can be ensured more easily within the CMEA countries but there are problems in trade with the market economies. Therefore, competitiveness and promotion of exports and in addition the rational use of imports become primary objectives. Further more increased attention is being paid to integrate and harmonize industrial policy with the development of the agriculture and the tertiary sector.

Since the extensive sources of growth have been more or less exhausted, all countries focus on the increase in productivity and efficiency, improvement of quality, faster progress in technology, management and organisation. Beyond that, the need for structural adjustment, deeper specialization and greater flexibility, is also emphasized, though less in the USSR than in the other small and medium-sized countries. Being aware of the increasing interdependencies in the world economy, international co-operation - CMEA integration and collaboration with the developed market economies and the developing countries - are dealt with in every CPE as a basic condition of further progress.

The major targets set for the state-owned enterprises of the public industrial sector are to be derived from these objectives. Industrial organisation, planning, the whole system of economic management should be improved to serve these objectives, and to give a more adequate framework to achieve them.

### C. The System of Planning

In all centrally planned economies the major objectives to be pursued by economic policy, the fundamental rates of growth and proportions of the economy, the most important characteristics of social and economic development, and the basic means and measures to be used for achieving these targets, are laid down in the national economic plans. The national economic plans for different time horizons form a consistent system, the long range, medium term and annual plans are constructed to be in harmony

with each other. Previously the annual plans were the basis of the guidance of the economy, now this role is given progressively to the subsequent series of medium-term, as a rule five-year plans.

The medium-term plans formulate the economic policy for the coming years, fix targets on the growth of the economy, the increase and use of national income, the guidelines for scientific and technical development policy, the development of the main sectors and the salient changes in their production pattern, the main directions of the international economic relations and foreign trade, as well as the basic proportions of the allocation of resources including investments and employment. The medium term plans also include the major investment projects to be implemented in the period and the guidelines for and measures of economic policy concerning finance, incomes, prices, social policy etc.

The medium-term plans are based on long-term plans; an increasing need is felt for this. The drafts of the long-term plans are usually broken down into five year periods. The five year plans are the basis of the annual plans. The process of planning includes a number of specific tasks such as:

- analyses of past growth, present situation and environment of the economy,
- forecasts/prognoses of the objective processes, requirements, internal and external conditions of the development of the economy,
- the consideration of alternatives about different growth paces and patterns of the economy, based on a set of hypotheses, development concepts and projects, and finally,
- drafting the comprehensive final plan.

The major objectives of planning are growth, equilibrium, and efficiency and their requirements are to be met simultaneously. Efficiency will be analysed through calculations on labour productivity, capital/output ratio, per unit use of energy and materials and by aggregate indicators.

Equilibrium will be checked - the different parts and targets of the plan harmonized - by the help of balances. The different types of balances used in macroeconomic planning in the CPEs are:

- the synthetic balances (i.e. the balance of aggregate social products, national income and expenditure, use and resources)
- the product balances
- the input-output balances
- the financial balances.

The centrally planned economies implement their national economic plans by breaking down the aggregate figures of the plan and establishing targets for ministries and enterprises. Other instruments, material and moral incentives are also used. These instruments and incentives should stimulate the ministries, other agencies and the enterprises to a creative co-operation in drafting their plans, in the allocation of the planned tasks and to efforts to fulfill the indicators of their plans, which should result in the implementation of the macroeconomic targets.

In all CPEs public enterprises prepare annual and medium-term plans partly since this is required for the proper management of the enterprise, partly as a necessary link in the system of economic guidance based on central planning. As a rule for the enterprises annual plans have more significance: traditionally these are the basis of the evaluation of their performance. The significance of the medium term (usually five year) plans is now being increased in order to promote the development of a longer time horizon.

Except in the case of Hungary the plans of the enterprises have to be approved by the supervisory ministry and the basic figures of the plan must correspond to the imposed targets given in advance, deviations will be accepted only in a positive direction.

The number and the list of the obligatory directives is different in different countries and changing over time. While with a greater number



of directives the link between the enterprise, the sectoral and the overall national plans can seemingly be strengthened, this narrows the freedom of the enterprises. For these reasons in most CPEs the number of the directive indicators have been reduced, in particular as far as output targets by products are concerned. At the same time greater importance is being attached to planning at the enterprises level. This can serve as a channel of information for the macroeconomic planners.

Usually the annual plans of the enterprises consist of the following chapters:

- production and realisation
- manpower, wages, productivity
- capacity utilization and investment
- energy and material supply, inventories
- technological progress, organisational development
- costs, profits and finance.

Production and realisation are planned by major products (mostly in physical units) as well as aggregated in value terms (gross value of output), taking into consideration the obligatory targets received from the supervisory ministry. On the other hand these figures must be based on market research, short and longer term delivery contracts and on financial considerations.

Manpower planning first entails the calculations of the average number of employees needed, their efficient use, by occupations; drafting manpower balances in order to check the requirements for recruiting and training and the need for dismissing employees, and finally the planning of wages, personnel and social policy. Planned manpower requirements have to be closely linked with the foreseen technological, managerial and organisational improvements, wages with costs and profitability. The number of employees and the amount of wages (often linked with labour productivity increase) are constrained as a rule by obligatory upper limits which cannot be

exceeded.

Production targets are related to available capacities by means of detailed calculations and analysis to reveal imbalances. In case full utilization of capacities cannot be expected, the possibility of raising production targets will be checked. Lack of capacities should be covered by reduction of idle periods, additional shifts, by new investments (usually foreseen already in the perspective plan and to be approved also by the supervisory ministry) or by use of co-operation, subcontracting etc. As a result changes in the stock of fixed assets and their aggregate utilization is also planned.

Energy and material requirements are planned by all sorts of basic and auxiliary materials and intermediary products based on norms of uses per unit of output and taking into consideration the imposed upper limits. Further, planned inventories are calculated by help of norms and by help of balance equations. Due consideration is given to changes in product mix as indicated in the production plan, as well as to the impact of technological progress.

The technological progress plan sets targets for the development of product designs, for the introduction of new products, technologies and for the improvements in management, work and production organisation. This chapter of the plan includes not only figures characterising the foreseen developments but also the measures needed for the implementation of these targets. Technological progress and other improvements modify per unit norms, production possibilities, costs and profit; all these are taken into account in the other chapters of the plan.

Total costs are calculated by summarising costs of labour, capital, energy, materials and some additional components. They are compared with sales value derived from the plan of production and realisation. The resulting profit figures are seen as of great importance in assessing the enterprises' future activity and these figures are the starting points

for drafting the other parts of the financial plan.

All these parts of the annual plan of the enterprise are closely interrelated; they are developed as a rule simultaneously by an iterative process. Auxiliary calculations (e.g. on material, capacity, manpower requirements) are increasingly performed by use of computers. Mathematical programming methods (usually assuming linearity) are often used.

The annual and medium-term (five year) plans as a rule have the same patterns with the difference that the latter are often not so detailed. This harmony is needed above all for the aggregation/disaggregation of the data of the plans for various time horizons. There is a continual effort to improve the methods and techniques of planning with regard to new experience and the changing requirements. Mostly detailed instructions are given to the enterprises. According to the "Standard methodology of planning for enterprises and productive associations" issued by the State Planning Commission of the USSR (Moscow, 1979) both the annual and the five-year plans should be drafted in similar form, in 12 chapters, as follows:

- production and realisation
- technological and organisational improvements
- efficiency indicators
- norms and normatives
- investments
- material supply
- labour
- costs, profit and profitability
- economic stimulation
- finances
- social development of the collective
- environment protection and the economic use of the natural resources.

The state-owned enterprises have to complete in the Soviet system a total of 56 tables detailing the various production, economic and social aspects of their activities.

Compared to the traditional methodology of the 1950s and 1960s recently a number of changes have been introduced including guidelines for measuring efficiency (instead of value of gross output), the use of net (value added) indicators, improvements in the planning of measures monitoring technological progress, better management and organisation etc.

The CPEs exchange their experience in the development of the methods of planning at the national, sectoral and enterprise level but there is no attempt at standardisation of planning methodology.

Needless to say attention is also paid in all CPEs to the substance of the relationships of the macroeconomic and enterprise plans. How can the interests and interactions of the planners at different levels best be harmonized, the informations properly exchanged and utilised, plans with ambitious but not realistic goals, with nearly optimal solutions submitted and approved, discipline and flexibility in implementation equally ensured - these are the major issues studied. A recurrent problem arises from the fact that the directives of the ministries to the enterprises are usually results of negotiations where they argue mostly for more ambitious targets; the state-owned enterprises on the other hand argue for targets whose implementation implies less risk and requires moderate efforts. New problems emerge in particular in the small CPEs with a high share of foreign trade due to the low predictability of the changes in the world economy and their impact on their own economy. All these require constant efforts to improve the system of planning and guidance of the public sector and the economy and lead to new measures, changes and reforms in all CPEs. Here briefly the Hungarian experience will be reviewed.

Per capita foreign trade turnover in Hungary ranks among the highest even among the small countries, due to conscious efforts to integrate trade into the international division of labour. In foreign trade beside the socialist countries also market economies have a substantial share here - this amounts now to nearly 50 per cent. These international relationships helped to strengthen specialization, utilize economies of scale but made the economy very sensitive to foreign trade.

The more intensive relations with the developed countries revealed the weaknesses of the industry and the economy in particular concerning technology, management, competitiveness, efficiency - which were felt more evidently and pressing. In addition to the critical analysis of the functioning and the guidance of the economy these signals helped to identify the need for the reform of 1968 preceeded by intensive work of several years. The reform in Hungary has brought important changes in the system of economic guidance: keeping the dominance of central planning it has increased the autonomy of the enterprises and the role of prices and markets considerably.

In Hungary the central agencies are entrusted with certain compulsory duties derived from the national economic plan. Enterprises, however, prepare their plans without obligatory directives. Incentives and financial regulators as well as a constant flow of information should induce them to draft and fulfill their plans in harmony with the targets of the national economic plan. The plans of the state-owned enterprise will be approved by its director, usually after consultations with the ministry and other authorities but without their direct interventions. According to the Act VI/1977 of the Parliament, the state-owned enterprise in Hungary is obliged to elaborate plans in harmony with the objectives laid down in the national economic plans and with the interests of the community of the enterprise but these plans have not the role of direct control: they are treated as an instrument of co-ordination and

internal management. For the enterprises profit and profitability are the main performance criteria assuming that in line with macro-economic planning the enterprises' environment and the financial system - regulation - could be so shaped that the profit motivation will drive the enterprises towards the national economic objectives.

Hungarian public enterprises formulate both their annual and medium-term plans approximately in the same form as outlined above but less detailed and with more freedom of action. The targets of their annual plans will be aggregated and analysed as a source of information about the expectations and intentions of the enterprises - without evaluating them one by one. More attention is given to the elaboration of medium-term plans: in the subsequent stages of the planning process the exchange of information between the planners at the macro-economic and at the enterprise level will be systematically organized, forecasts from different sources and approaches, drafts with various alternatives discussed. While enterprises formulate their medium-term development plans, and strategies primarily for themselves, the ministry has access to these documents and is not without influence on their formulation. However, that performance evaluation will be based not only and not dominantly on the reports about the fulfilment of the planned targets but on other criteria, helps to harmonize these often conflicting considerations.

Most Hungarian managers are convinced on the basis of their 13 years experience since the introduction of the reform that enterprises with a high degree of autonomy cannot do without medium-term and strategic planning.

Recognizing that their strategy should be extended beyond the five-years time horizon, quite a number of the largest enterprises initiated the elaboration of long-term plans, too. When now the State Planning Office started a new cycle of long-term planning, these enterprises

were asked to continue this exercise and some others were also stimulated to do so - these plans are considered as an important source of information about the outlook of the enterprises. At the same time with a longer time horizon, an increasing need is felt for flexibility and for more explicit treatment of the different uncertainties. The practice of rolling planning is spreading.

D. Organisational Forms; Interlinkages

In order to understand why and how the statutes and the organisational forms of the public enterprises in the CPEs differ and change over time, one must start from the requirements and efforts to control and supervise these usually numerous enterprises with minimum bureaucracy and maximum efficiency. All public enterprises in the CPEs - this is the common characteristic - are responsible legal entities liable to give account of their activities in a statement of balance, but their rights, obligations and other responsibilities can be and are defined variously, in accordance with the actual system of economic management. The modification and improvements in this system mostly imply changes in the statute and often also in the organisational forms of the enterprises.

Most significant differences in statute, rights, obligations and responsibilities of PEs arise due to differences in subordination. The public enterprise can be subordinated to an administrative or to an economic unit. There are two main types of administrative units supervising public enterprises:

- (i) ministry or other state agency with similar duties, and
- (ii) local/regional authority.

The economic unit with the right to control certain PEs has various names including: national enterprise, combine, concern, trust, association. These economic units are legal organizations charged with control functions over other enterprises. Usually enterprises subordinated to administrative units have more autonomy than enterprises controlled by larger economic units.

The major forms of production organisation in public enterprises are as follows:

- (i) enterprise with a single plant, subordinated to an administrative unit;
- (ii) enterprise with a single plant, subordinated to a larger economic unit (which is controlled by an administrative unit);
- (iii) factory as part of a multi-plant enterprise, subordinated to an administrative unit;
- (iv) factory as part of a multi-plant enterprise, subordinated to a large economic unit.

Between the factory and the administrative unit exercising the supreme control and supervision,

in case (i) there is a direct contact

in case (ii) there is one intermediate link

in case (iii) there are two intermediate links

in case (iv) there are three intermediate links.

From the point of view of the administrative unit direct contact offers more insight and possibility for intervention but in the case of a considerable number of enterprises this will overburden its staff. One or more intermediate links restricts the autonomy of the primary production units but is favourable for internal economic co-ordination, in respect of economies of scale, entry into the market etc.

In the last two decades in most CPEs the trend has been to establish large economic units with control functions. In the USSR according to the Statistical Yearbook, of the 43954 public industrial enterprises in existence in 1979, 7366 belong to associations. These associations have altogether 17516 production units; besides there are 3947 enterprises with "independent accounting" and 10150 units with restricted autonomy. The largest enterprises are attached to the associations which account for nearly 50 per cent of total industry output and employment. There are two types of associations: production associations are concerned with



the production and sales. They embrace both enterprises and units without "independent accounting". The industrial associations embrace only enterprises and in addition organisations, institutes, bureaux etc. engaged in R & D activities.

In the federal system of the Soviet Union there are federal (all-Union), federal-republican and republican ministries. (The federal-republican ministries are subordinated to the Council of Ministers of the republic but are controlled also by the corresponding federal ministry). 53 per cent of the total industrial output of 1979 was produced by enterprises and associations attached to federal ministries, 47 per cent by those attached to other types of authorities.

In the GDR the establishment of associations and combines started in the 1960s and now these two organizational forms dominate. The combine is as a rule a more or less closed complex of related enterprises. The associations might have also some control functions over enterprises not directly subordinated to them. As a third form, the Leitbetrieb (leading enterprise) renders assistance to a given group of enterprises with looser legal bindings. In Bulgaria associations have been organised since 1971. Large economic units with different names and statutes are gaining ground in all CPEs (except Hungary) and this involves both centralization, and some liberalization of ministerial control.

The major characteristics of the present industrial organization in Hungary reflect the preference for large enterprises. In the early 1960s a wave of mergers reduced the number of enterprises considerably - by the end of 1960: 1338, by the end of 1965: 840. This trend prevailed until 1980. The typical Hungarian public industrial enterprise is now the multi-plant firm. Since also plant sizes - measured by employment figures - are relatively large, the enterprise concentration in particular in the sector controlled by the ministries ranks among the highest found in statistics. That means that large economic units in enterprise form dominate.

The term association denotes in Hungary a legal framework for voluntary co-operation of perfectly independent enterprises. This is not a wide-spread form in Hungary. Associations operate e.g. in the electronic and pharmaceutical industry. About one quarter of the 700 public industrial enterprises are controlled by trusts, that have been created in industries like coal, oil, aluminium, food processing where the need for closer coordination and control was supposed to be of primary importance. The resolutions of the associations will be legitimized by the concensus of the member-enterprises, the trusts are authorized also for direct interventions including financial matters. Enterprises of the trusts work formally according nearly to the same "rules of game" as the other firms but their real freedom of action is between that of an enterprise subordinated directly to a ministry and that of a factory of a multi-plant enterprise.

According to the prevailing opinion reflected also in government resolutions the present pattern of industrial enterprises in Hungary is too much centralized. This is probably advantageous for the concentration of resources, for the entry in the world market, for certain types of economies of scale, and for carrying out some major strategic changes in the pattern of production. On the other hand, in many respects this pattern does not conform with the present system of economic guidance. The dominance of multi-plant enterprises means a considerable internalization of the buyer-and-seller relations; the increase of flexibility, the curbing of the rivalry for subsidies and exemptions, the rationalization and divestment seem to be more difficult in the case of large enterprises than for small and medium sized firms. Most probably in many branches a more balanced enterprise size-pyramid would be in better conformity with the goals of the industrial policy formulated for the coming years. However, instead of uniform and prompt changes, drawing the lesson from earlier experiences,

differentiated and gradual modifications accompanied by corresponding up-dating of the system of management are recommended.

Accordingly the government stopped the process of decentralization, beside trusts also some large multi-plant enterprises had become disintegrated, different measures were taken to promote the development of small and medium sized enterprises in the public sector.

The public industrial enterprises are interlinked with the economy in many ways. The buyer-seller relationships of the enterprises are partly co-ordinated by the system of central planning but increasing significance is attached in all CPEs to the direct contacts of the enterprises. Joint ventures, long-term contractual arrangements, profit sharing devices (within limits also with foreign enterprises) are encouraged. The financial relations between enterprises are of less importance since the finances are in the hands of the centralized state banks.

As far as relationships with the government are concerned experience is varied. The rights of supervisory bodies for direct and indirect interventions are different in different CPEs. In Hungary according to the present regulation the ministries in their supervisory capacity:

- exercise the statutory rights over the enterprises (founding, auditing etc.)
- assess the overall activity of the enterprises
- appoint and relieve enterprise managers and assert certain rights of the employer (evaluation of their work, decisions about their salaries and remuneration, etc.)
- exceptionally and in compliance with statutory provisions, instruct the enterprises to undertake a given activity
- supervise enterprise business activity in merito from the viewpoint of discharging basic corporate tasks.

In other CPEs the approval of the plans of the enterprises is a fundamental task of the ministries and they can give instructions with less restrictions. The mingling of formal and informal instructions makes difficult the true assessment of the everyday practice.

Beside the supervisory control dealt with above, sectoral, functional and regional control is also exercised as a rule less by direct interventions, more by regulatory enactments or by indirect instruments. The duties and responsibilities of the sectoral supervisor cover all activities falling into the given sector.

Thus for example a ministry of engineering industries with a number of enterprises (trusts, associations or other units) under its direct control bears responsibility for the development (in particular as far as technology, specialisation and co-operation are concerned) for the total engineering industries of the country including enterprises under many other authorities.

Execution of governmental decisions is primarily the task of functional organisations with responsibilities in their area for the entire national economy. They are usually in charge of the preparation of the governmental decisions related to their function and they have to follow up and control the implementation of these decisions. In the various CPEs the structure of the functional organisations is similar but not identical. In Hungary for example there are six such organisations: National Planning Office, National Board for Technological Development, National Materials and Price Office, Ministry of Finance, Ministry of Labour, Ministry of Foreign Trade.

In the CPEs the task of supervising public industrial enterprises working mostly for local demand (similarly to public utilities) are assigned to the local authorities (councils). In this respect, the councils possess the same rights concerning the enterprises falling under their supervision as the ministries. In addition, these councils have

some control over all enterprises, plants active in their territory, including those under ministries. They must be consulted in case of founding or liquidation, locating or transferring enterprises or plants in the area, and in case of measures affecting local employment, supply, living conditions etc. On the other hand, the councils have to inform the business organisations in the area about plans, targets, measures affecting their activities.

In the life of the public enterprises in the CPEs both the party and the trade union organisations play important roles, and the management of these enterprises has close contacts also with the higher hierarchical levels of these organisations. Their co-ordinating and co-operative activities aim basically at the harmonization of the goals and efforts of society at large, the local community, the enterprise and its employees. Professional associations, state-sponsored institutes for research technology transfer, consultancy and training and the chamber of commerce also play a role. With the growing share of foreign trade the significance of these chambers has increased. In Hungary by January 1981 the functions of the Chamber of Commerce have been extended to the organisation of mediation between state enterprises and promoting the development of their international economic relations.

#### The chambers

- transmit to the economic control organisations of the state the opinions of member companies on draft decisions significantly and directly concerning enterprises, as well as the experiences and deliberations concerning effective decisions and regulations;
- transmit to member companies the observations and answers of the economic control organisations of the state as well as their requirements concerning more efficient business and management;
- promotes co-operation between member enterprises;

- through their function as promoter of international trade, contribute to improving the external economic relations of member companies;
- represent the membership's interests related to foreign trade activities both in international chambers of commerce and at foreign administrative and other bodies;
- represents Hungarian employers at the International Labour Organisation.

#### E. Performance Evaluation

The performance of the enterprises are evaluated by their managers, employees, owners and Boards, by their partners and competitors, by the public and by local and governmental authorities. The enterprises follow their own goals and simultaneously try to meet all these expectations.

If the fundamental tasks of the public enterprises are unambiguously fixed by the targets of their plan approved by a supervisory authority, performance evaluation can and should be built on the report about the fulfillment of the plan. In the CPEs this is the general case and they see the main problem in finding the adequate indicators which reliably define and measure the tasks to be implemented. The enterprises have to fulfil a set of planned targets covering all major aspects of their activities. These indicators can be classified into three groups measuring

- (i) output
- (ii) efficiency
- (iii) working conditions

The output of the public industrial enterprises in the CPEs is measured on the basis of physical units, the gross volume of output and/or value added type indicators.

Physical units are often preferred for the sake of simplicity but they give adequate measures only if:

- (i) the products under review are absolutely homogeneous without any differences as regards quality or assortment, or
- (ii) these differences in quality or assortment are properly reflected by the unit of measurement.

These requirements are seldom fulfilled perfectly, even in the "classical" example: electricity. Some extension of these limits can be achieved by using conversion coefficients. In this case the standard type of the product is the base of the calculation and the deviations of the other types differing in size, quality or other parameters taken into account by multiplying their original quantity with a coefficient more or less than 1.

The gross value of output - the most frequently used aggregate indicator in CPEs - includes

- the value of all finished products;
- the value of the semi-finished products sold;
- the changes in the stock of the semi-finished products and the work-in-progress, and
- the value of services sold.

Since the planned and actual volumes of the output is to be measured, gross value of output at constant prices is calculated. This can be computed either - in case of a limited number of products - directly, multiplying quantities by "constant" prices or indirectly with the help of price deflators. In periods of rapid changes in the product mix and prices the possible margin of error in these calculations is not negligible and not easy to reduce. Errors might originate from a number of sources, e.g.:

- in the case of calculations at constant prices, usually these are

average prices of groups of products, not reflecting changes in the product mix, or

- in the case of use of price-deflators these are based on data of a limited number of products and seldom meet the rigid requirements of the sampling methods.

The gross value of output includes both the work done, the value added by the enterprise and the value of the intermediate goods used, the purchased materials, semi-products, energy and services. From a macroeconomic point of view this implies double-counting. In the CPEs the evaluation of the performance of the enterprises is now being undertaken with the use of net output indicators: value added and net value of output (value added minus depreciation allowances) are considered now theoretically definitely more reliable measures of the enterprises' contribution, their calculation, however, at constant prices requires additional work. In addition, these figures are more dependent on relative prices and, therefore, changes in product mix might have great impact on the values of the aggregate indicators.

Finally, it should be mentioned that within total output special emphasis is often laid on the output of a given class of products intended for a given group of buyers. This is the case e.g. concerning basic goods for the consumers, for priority investments, and for export deliveries.

The efficiency of the use of resources of public industrial enterprises is assessed in the CPEs by help of partial and aggregate indicators. Partial indicators measure the use of the different resources/inputs per unit of output, including labour, capital, energy and raw material. Another approach attempts to measure the different factors determining efficiency, as e.g. technological progress, improvements in management, organisation etc. The conclusions drawn from partial input indicators are of limited relevance. For the aggregate measurement and evaluation



of efficiency (in a broad sense) three types of indicators are applied in the CPEs:

- productivity indicators,
- complex efficiency indicators, and
- cost and profitability indicators.

"Productivity" usually implies labour productivity measured as the ratio of output to labour input. Increasingly more comprehensive indicators are being recommended and applied, with net indicators in the numerator. Thus the ratio reflects the changes in the use of intermediate goods (and in case of net value of output also the use of capital) per unit of output as well. Labour input is measured by the average number of employees or manhours performed, as a rule without adjustment for changes in the composition by qualification.

Multi-factor or total factor productivity index numbers are known and being used in the CPEs but only at the sectoral or more aggregate levels. They are called "complex efficiency indicators" or index numbers. The relative weights of labour and fixed assets (capital) are calculated by different methods.

If besides the inputs of labour and capital other inputs are also included in the calculation we obtain "production costs" another indicator which can be used for measuring aggregate efficiency as a basis for cost and profitability analyses.

Finally, there is a special chapter in the plans of the enterprises on the improvement of working conditions and social provision, with a set of related indicators. The assessment of these targets is always a substantial part of the evaluation of the enterprises' performance.

In the practice of performance evaluation based on the planned values of these different indicators, three further questions emerge:

- (i) some important tasks imposed on the public enterprise cannot be quantified nevertheless should be taken into consideration. That means that in the final assessment additional considerations seldom can be avoided.
- (ii) for proper evaluation it should be assumed that the fulfilment of the planned targets requires more or less the same efforts from the several enterprises. The validity of this assumption, however, often seems restricted: the enterprises taking part in a "bargaining" process before fixing the targets might attempt to assert their interest in "underplanning". In addition, the external conditions taken into account when the targets were fixed, can change; if this can be proved, the targets must be modified and recalculated. This again involves some uncertainties and possibilities for bargaining. The problems can be reduced by several organisational measures but cannot be eliminated completely.
- (iii) the relative fulfilment of the several targets complicates the final judgement on the performance of the enterprise. A way out can be either to give priority to a selected single indicator or to apply an (explicit or implicit) weighting scheme.

The priority indicator had been for a long period the gross value of output but as experience has shown this often downgrades the efficiency requirements. Consequently, as a rule efficiency (first of all labour productivity, or profitability) indicators have also been given importance. In Hungary profitability is now the main (but not the exclusive) performance criterion. There have been concentrated efforts to continuously improve the price mechanism and the economic environment of the enterprises

which should make profitability indicators reliable measures of competitiveness and performance.

Explicit weighting schemes of the different indicators to be taken into account in performance evaluation are seldom applied in the CPEs except in income regulations in particular as far as bonuses are concerned. These can be linked, decomposed and differentiated. For some indicators only minimum requirements are determined while for others over-fulfilment is rewarded. Implicit weighting is frequently used based on the priorities of the national plan and the industrial policy of the given period. This procedure involves subjective elements - studies are in progress on methods and techniques aiming at reducing this subjective element.

CHAPTER IV. THE ROLE AND PERFORMANCE OF THE PUBLIC SECTOR IN THE  
INDUSTRIALIZATION OF SOME AFRICAN DEVELOPING COUNTRIES  
- AN IN-DEPTH ASSESSMENT -

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by

TONY KILLICK\*\*

A. ROLE AND POLICY OF PUBLIC INDUSTRIAL SECTOR

One of the most distinctive features of post-Independence Africa has been the growth in importance of public enterprises in the productive structures of its economies. Colonialism itself laid the foundation, for while colonial administrations did not generally invest directly in agriculture and industry they participated actively in distribution - through marketing boards and the like - and other service activities. More importantly, they promulgated the view of the central government as the most important agent of change and economic progress. Far from being laissez faire, as is sometimes supposed, colonialism was highly interventionist. It was thus a simple step further for the leaders of the newly-independent states to extend the realm of the state to mining, manufacturing and agriculture, both through the acquisition of previously foreign-owned concerns and through investments in newly created state enterprises.

This movement was by no means confined to governments which described themselves as socialist. In varying degrees, it has been a near-universal tendency: for example Kenya is generally regarded as having a pro-market, private enterprise orientation. Yet its national accounts reveal the total public sector to have contributed 22% of GDP in 1977 and state investments are widely dispersed through the industrial sector.

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\* The views expressed in this paper are those of the author and do not necessarily reflect the views of Overseas Development Institute or the Secretariat of UNIDO.

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The efficiency of the public sector, and of state industry, has thus become a matter of the greatest importance to the overall performance of the economies of Africa. The principal objective of this chapter is to bring together as much evidence as is available on the performance of public enterprises (PEs) and its determinants. The primary focus is on the manufacturing sector and upon wholly state-owned public industrial enterprises (PIEs). Mixed' enterprises (ME) where ownership is shared in varying proportions between the state and private (usually foreign) shareholders will receive less attention, except as points of comparison with PIEs.

This chapter is based upon case material drawn from four countries of sub-saharan Africa: Ghana, Senegal, Tanzania and Zambia.<sup>1/</sup>

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<sup>1/</sup> To avoid frequent and repetitious acknowledgements of sources we will at this point summarise the chief sources used for each country. The following text is based heavily on the following publications, to whose authors we are greatly indebted.

Ghana: Tony Killick, Development Economics in Action: A Study of Economic Policies in Ghana, London, Heinemann Educational Books 1978, especially chapter 9.

Tony Killick, 'The state promotion of industry: the case of the Ghana Industrial Development Corporation'. Ghana Social Science Journal, Vol.2, No.1 (1972) and Vol.3, No.1 (1976).

Senegal: World Bank, Senegal - The Para-public Sector Report. Washington mimeo, June 1977, Report No. 1619a - SE

Tanzania: John Wilton, The Role of the Public Sector in the Industrialization of the United Republic of Tanzania, UNIDO/IS. 358. A report specially prepared as background to the present study.

Kwan S. Kim, 'Enterprise performances in the public and private sectors: Tanzanian experience, 1970-75', Journal of Developing Areas, 15 April, 1981.

Zambia: World Bank, Zambia - The Basic Economic Report, Annex 2: The Parastatal Sector, Washington, mimeo October 1977, Report No. 1586b - ZA

Unless the contrary is stated, all the country tables and other information are taken from the above sources.

This is not a carefully selected sample designed to be representative of Africa as a whole. These were, quite simply, the only countries about which a reasonable body of relevant information could be found. A diligent search was mounted for published material on other African countries, including recourse to computerised bibliographical search facilities, but with few results. Africa provides a particularly acute example of the conclusions of the 1979 UNIDO Expert Group Meeting on the Role of the Public Sector on the Industrialization of the Developing countries:<sup>1/</sup>

At present, statistical data are either not available at all or are out of date, not accurate and in some cases conflicting.

Far more primary research is needed before anything approaching an authoritative account could be prepared. Even for the four countries studied below the available information leaves much to be desired. Much of it, especially on Ghana, is badly out of date. On Senegal much of the data relate to PEs generally and it has often not been possible to disaggregate the manufacturing enterprises from the general picture. On Tanzania the data are subject to a variety of limitations, as can be inferred from the special report on Tanzania prepared in connexion with this study.<sup>2/</sup> Moreover, for all four countries the information on PIE performance is heavily skewed towards profit-and-loss statements, despite the serious limitations of such information for the purposes of economic evaluation.

Before proceeding to the evaluation, however, we will briefly describe the nature of manufacturing PEs in each country and their importance in their respective national economies.

<sup>1/</sup> UNIDO: Expert Group Meeting on the Role of the Public Sector on the Industrialization of the Developing Countries; Vienna 14-18 May 1979 (UNIDO ID/WG 298/15 Para 14).

<sup>2/</sup> See The Role of the Public Sector in the Industrialization of the United Republic of Tanzania, by J. Wilton, UNIDO/IS. 358.

GHANA

In this case state participation in manufacturing dates back to the colonial period, during which time an Industrial Development Corporation was set up to invest public money in industrial enterprises. Under the impulse of both the nationalism and the socialist rhetoric of the Nkrumah government, the process was much accelerated during the first half of the 1960s, in parallel with a much wider expansion of state participation in the productive system. As can be seen from Table 1, by 1966 (roughly the end of the Nkrumah period) wholly-state-owned PEs accounted for nearly a fifth of total manufacturing output, with another eighth emanating from MEs. Although the proportions as between PEs and MEs had shifted by 1970, the combined share of the two was about the same (about a third of total manufacturing output) as in 1966 and well above the 1962 level. As a more general indicator of the increased role of the state, there were estimated in March 1966 to be 53 state enterprises, 12 MEs and 23 public boards; for 1968 it was estimated that the public sector contributed 2 % of GDP. Although the governments that have followed Nkrumah's have been avowedly more favourable to private enterprise and part-ownership, and a few minor PEs were sold to private owners in the later 1960s, new PEs have been added, so that the number of PEs in manufacturing is today rather larger than fifteen years ago. Most of these are grouped in the Ghana Industrial Holding Corporation (GIHOC). This, however, is more than a 'holding' corporation, for it involves itself directly in the detailed management of the enterprises for which it is responsible.

Table 1. Ghana: Manufacturing Output by Type of Ownership, 1962-70

Type of Ownership	Percentage of Gross Output		
	1962	1966	1970
Ghanaian			
Private	13.0	9.7	6.0
State	11.8	19.5	15.6
TOTAL GHANAIAN	24.8	29.2	21.6
Mixed			
Private/Foreign	4.8	8.7	20.9
State/Foreign *	7.1	12.7	17.3
TOTAL MIXED	11.9	21.4	38.2
Foreign	63.2	48.3	40.2

Source: Central Bureau of Statistics, Industrial Statistics.

NOTE:

\* Based on assumption that private partners with government are all foreign.

SENEGAL

In Senegal too, state participation in the manufacturing sector dates back to colonial times but much of it is of more recent origin. Associated with a decline in the real value of private-sector investment in the early 1970s, there commenced an accelerating expansion of state involvement, largely in the form of MEs. In 1975 alone (the last year for which complete information is available), 19 new MEs were set up. By that year 97 such enterprises were in operation, of which half were less than four years old. In manufacturing alone, there was a total of 20 PEs and MEs by 1974, contributing a quarter of the total turnover of the sector and over a fifth of value added (see Table 2) - a contribution which had grown rapidly during the 1970s.



Table 2. Senegal: Contribution of Public Sector to Turnover and Value Added, 1974.

	<u>Manufacturing</u>	<u>All Sectors</u>
Turnover (CFAF bn.)		
1. Public Sector *	37.5	169.4
2. Private Sector	107.5	305.7
3. (1) as % of (2)	34.9%	55.4%
Value-added (CFAF bn.)		
4. Public Sector *	8.4	67.6
5. Private Sector	31.4	90.7
6. (4) as % of (5)	26.8%	74.5%

\* including MEs

To give a fuller impression of the importance of the public sector in the economy, its large contribution to total national production can be gauged from the 'all sectors' column. In the same year, public sector investment comprised nearly half (48%) of total investments in the modern sector. Government participation is, however, heavily concentrated in a small number of large MEs. In 1974, 94% of the total value added in the public sector emanated from twenty enterprises. The largest of these are in phosphate mining and groundnut marketing, not in manufacturing; public sector value-added in manufacturing comprised 12.4% of total public sector value-added in 1974.

#### TANZANIA

What has become known as the 'Arusha Declaration' of 1967 proved to be a turning point in the role of the public sector in the industrialization of Tanzania. Until then the Government had relied mainly on the indirect encouragement of industry through the provision of infrastructure and of incentive for private investment. However, there was a growing impatience with the quantity and nature of the private investment resulting from this relatively passive policy stance, and

the Arusha Declaration shifted the orientation of policy towards 'socialism' and 'self-reliance'. This quickly resulted in the nationalization of several industrial concerns and the compulsory acquisition of up to 60% of the shares of a number of others. A National Development Corporation was given control of these investments and was encouraged to establish further new PEs and MEs.

The actual results did not fully measure up to the planned intentions but there was nevertheless a very rapid expansion in the years after 1960, as can be seen from Table 3. Between that year and 1972 the share of PEs and MEs in the total value added of the industrial sector rose 6.6-fold; an index of the growth of public sector industrial output by 1972 stood at 339 with 1966 as base; and public sector industrial employment rose 6.6-fold in 1967-74, by which latter year it accounted for a half of all industrial

**Table 3: Tanzania: Indicators of the Growth of the Public Sector in Industry, 1966-78.**

	Contribution of PEs and MEs to total industrial value-added (%)	Index of public sector industrial output (1967=100)	Industrial employment in public sector (numbers)	Index of value-added per man in public sector (1967=100)*
	(1)	(2)	(3)	(4)
1966	5.0	76	...	...
1967	14.4	100	5302	100
1968	17.8	139	8792	84
1969	22.5	168	12350	72
1970	25.6	210	15454	72
1971	29.1	259	24836	55
1972	33.2	257	25387	54
1973	31.5	290	29595	52
1974	35.0	325	34778	50
1975	39.2	323	35278	49
1976	38.5	358	35300	54
1977	39.0	314	36450	46
1978	33.6	...	38381	...

\* This index is computed by dividing the index in Column (2) by the index implicit in Column (3).

employment and over 7% of total recorded employment in the country. From about 1972-74, however, the hectic pace of expansion came to a rather abrupt halt, for reasons to be explored later (see Table 3).

#### ZAMBIA

Of the countries studied here, the public sector has attained the greatest importance in Zambia, relative to total economic activity. As in the Ghana and Tanzania cases, there is a continuous history of state involvement from the colonial years and the immediate post-Independence years showed little marked change of basic strategy, although there was an acceleration of state involvement in industry. In 1968, however, President Kaunda made an important speech announcing what became known as the 'Mulungushi reforms'. In essence, these and later reforms implied a policy whereby large-scale enterprise would be the reserve of the state and small-scale industries would be open to the private sector. Since nationalization was forbidden by the Constitution, 24 foreign-owned concerns were "requested" to "invite the Government to join their enterprise" to the extent of 51% of their shareholdings. There were further take-overs a little later, most notably of copper mining companies and financial institutions. However, there have been few new take-overs since 1974.

As a consequence of these policies, the public sector has come to dominate the productive sectors of the economy other than agriculture and construction. Well over half of GDP is estimated to originate in the public sector, and at least a third of total national wage employment. Table 4 summarises some key statistics for the manufacturing sector for the period of most rapid expansion, 1969-72. As can be observed, by the latter year the public sector was responsible for nearly two-thirds of total fixed assets in manufacturing, over half of value-added and over a third of total

employment. However, the indications are that there may have been some relative decrease since 1972. Thus, public sector employment was static in 1970-75, the last year for which data is available.

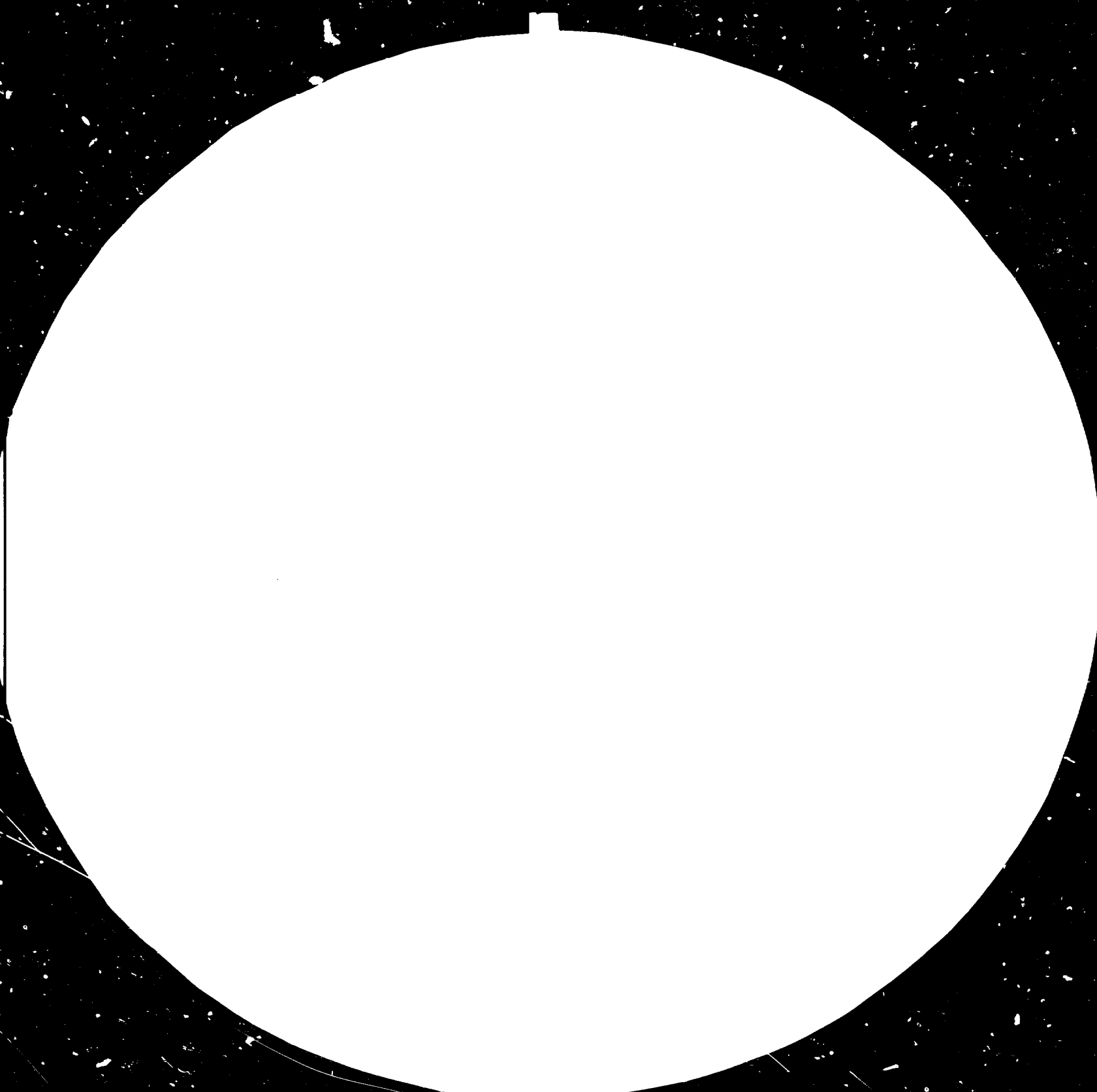
Most, if not all, state enterprises in the manufacturing sector are the responsibility of the Industrial Development Corporation (INDECO) which is a holding company in form, although it has increasingly involved itself in the detailed management of its various subsidiaries. It also makes decisions about cross-subsidization, short-term financing and, to a lesser extent, about the allocation of investible resources. In turn, INDECO is a subsidiary of the Zambia Industrial and Mining Corporation (ZIMCO), an umbrella organization responsible for most public enterprises in all sectors of the economy.

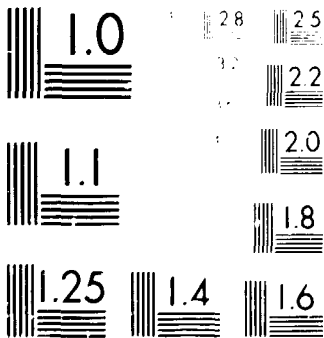
Table 4. Zambia: Indicators of the Share of the Public Sector in Manufacturing, 1969-72.

	(Kwacha mn.)			
	Turnover	Fixed assets	Value-added	Employment
	(1)	(2)	(3)	(numbers)
				(4)
<hr/>				
<u>1968</u>				
Public sector *	45	...	...	4,600
Zambia total	270	...	...	37,000
Share of Public sector	17%	...	...	12%
<hr/>				
<u>1972</u>				
Public sector *	200	117	95	17,000
Zambia total	440	182	182	45,000
Share of public sector	45%	64%	52%	38%

\* Indeco enterprises only.

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MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS-1963-A

The four cases described above, while self-selected on the simple criterion of data availability, do nevertheless provide quite an interesting sample. They straddle Eastern and Western, and Anglophone and Francophone Africa. They include at least one economy which must be considered as essentially based on private enterprise (Senegal) and two in which PEs have assumed dominant roles outside agriculture (Tanzania and Zambia). In the latter two countries publicly-owned manufacturing is based largely on enterprises taken over from private ownership, whereas in Ghana there has been little nationalization and many PEs were created wholly by public investments. Two of the countries (Ghana and Zambia) must be considered relatively well endowed with natural resources; the other two much less so. All, interestingly, have gone through periods of rapid expansion of the public sector, which periods, however, came to an end some years ago. Three of them have enjoyed political stability since Independence; being governed today by the same leaders who led them to Independence; only Ghana has been marked by serious political instability and even there, there has been much continuity of policy. While there can be little scope for generalization on the basis of four incomplete case studies they do nevertheless provide an interesting and diversified basis for study. What, now, is the evidence concerning the economic performance of public enterprises in these countries?

#### B. EVIDENCE ON ECONOMIC PERFORMANCE

##### Policy Objectives

On the principle that PIE performance should be appraised by reference to the goals they were set up to achieve, rather than by some



external criteria, this chapter must commence by considering the objectives of the four governments. But this immediately brings us to the nub of our problem, the state's objectives are rarely articulated with much precision.

The primary motivations were to create PIEs (a) as development projects and (b) as instruments of political power. Under the former heading, expansion of the public sector was seen as a means of reconciling the desire to modernise the economy with a wish to increase the degree of economic independence. The principle of self-reliance stressed the importance of employing local skills and resources to satisfy domestic demand and to reduce dependence on foreign resources and technology. State investments were seen as filling a vacuum that the private sector could not occupy. They were to generate surpluses for reinvestment, to introduce improved techniques of production and to benefit from economies of scale.

But PIEs were also seen as instruments of political power and control. They provided substantial sources of patronage by bringing within the state sector a considerable number of higher-level managerial appointments and a much larger number of manual jobs. In practice, PIEs have also been used as instrument of regional policy providing uneconomic services to remote areas and a wider spread of employment opportunities. PIEs have also been used as means of holding down the cost of living, i.e. of protecting consumer welfare. Often there were conflicts between the political and developmental objectives. This is a theme on which more will be said later.

Despite the multiplicity of objectives, however, all four governments have placed particular emphasis on financial results when monitoring the performance of their PIEs and have paid particular attention to the profit criterion. In Ghana, for example, all governments, inclu-

ding the present one,<sup>1/</sup> have employed the profit criterion and have implicitly agreed with the policy set out in the 1964 seven-year plan:

The projects chosen for state investment must include a large proportion with high rates of return and short pay-off periods.. .. State enterprises will be expected to make a contribution to the public revenues within a reasonable time, and they should not be allowed to become a permanent liability to the economy: enterprises which make losses permanently represent a waste of both capital and current labour resources.

President Kaunda of Zambia has also stressed the profit criterion. While PIEs should show a greater consideration of social factors than would be expected of private businesses, they must nevertheless "operate in a business-like manner, become ever more efficient and profitable, and stand on their own in a ruthlessly competitive economy". They are expected to yield an annual rate of profit of 12-16%, depending on the riskiness and expansion plans of the enterprise.<sup>2/</sup>

Since in certain clearly defined conditions profitability can be a useful summary indicator of economic efficiency, and an enterprise's ability to generate surpluses certainly affects its ability to make an on-going contribution to industrialisation and, since in any case, governments tend mainly to apply the profitability criterion in their own judgements about PIE performance, we can begin our own evaluation by examining the financial record.

#### Financial performance

Of the four countries selected, the data on Zambia are the fullest. During the first five years of growth and expansion into diverse manufacturing activities, the Industrial Development Corporation (INDECO) maintained a fairly steady record of profitability, as can be observed

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<sup>1/</sup> See report of statement by Vice-President of Ghana stating the government's commitment to making PEs "viable and profitable". West Africa, 30 March, 1981, p.681.

<sup>2/</sup> From report by President Kaunda on the economic situation in Zambia, 30 June 1975, p.16.

from Table 5. During 1970-74 there was an average net profit equivalent to 6.14% of turnover and a return on net assets of 7.74% - a modest rate of return and well below the target range specified by President Kaunda but nevertheless a reasonable foundation upon which to build financial strength. In 1975, however, there was a short-fall and in the following year (the last for which data are available) the corporation recorded its first net loss, equivalent to 3.2% of net assets.

Table 5. Zambia: Net Profits (Losses) of Indeco Group

<u>FY</u>	<u>Turnover</u>	<u>Net Assets</u>
	%	%
1970	7.5	7.7
1971	6.2	7.8
1972	5.8	8.5
1973	5.4	6.9
1974	5.8	7.8
1975	1.0	1.5
1976	(2.1)	(3.2)

The results summarised in Table 5 are, of course, merely the consolidated results of the several subsidiaries operating under the INDECC umbrella and conceal wide variations as between the various enterprises. Data on individual subsidiaries are therefore provided in Table 6.

There are large variations in the results of individual subsidiaries over time. This is partly due to delays in getting projects into normal product cycles and changes in the internal composition of the subsidiaries (several of which are themselves holding companies). The breweries and Steelbuild companies, which ironically were nationalised precisely because they were highly profitable, have shown rather

Table 6. Zambia: Indeco and Divisional Consolidated Accounts, % Profit (loss) on Net Assets, 1970 to 1976.

<u>Division</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
	%	%	%	%	%	%	%
Breweries	34.0	29.5	25.8	18.4	16.0	9.8	8.3
Chemicals	-	4.2	6.9	5.7	8.2	0.3	5.1
Industrial							
Holdings	-	-	(5.6)	2.0	21.1	30.5	2.9
Real Estate	(2.9)	(1.1)	(1.1)	(1.4)	(1.4)	(0.7)	(9.0)
Trading	5.3	6.3	12.6	7.5	12.4	-	-
Rucom							
Holdings	(12.3)	(33.8)	4.2	7.9	15.9	<u>/a</u>	<u>/a</u>
Steelbuild							
Holdings	23.1	38.7	18.0	5.0	2.2	9.8	(19.4)
Indeco Group	7.7	7.8	8.5	6.9	7.8	1.5	(3.2)

- = Group not yet formed or no longer part of INDECO  
a/ = Net assets negative

dramatically deteriorating returns over the period as a whole, whereas the Industrial Holding and Rucom groups showed general improvements until the last year or two. These varying trends tended to cancel out until 1974, to provide the rather stable returns recorded in Table 5. In 1975 and 1976, however, profitability declined across the board, for reasons to be discussed later. Even in the earlier years, however, no dividend was ever paid on the government's shareholding in INDECO.

This brings one to consider the issue of financial flows between the PIEs and central government budget. It is perhaps because of the implications of the profit-and-loss results for public finances which cause governments to emphasise the profitability criterion, rather

Table 7. Zambia: Relationship of Indeco to the Government

(Actuals in K 000 )

	<u>1970</u>	<u>1971</u>
<u>Government Revenues from Indeco Ltd. and its Subsidiaries</u>		
On Current Account:		
Income Tax	4,957.0	7,466.0
Withholding tax on Dividends	-	423.0
Dividends	-	-
Interest Payments	1,575.0	1,750.0
Total	<u>6,532.0</u>	<u>9,639.0</u>
On Capital Account:		
Capital Repayments	<u>116.0</u>	<u>1,925.0</u>
<u>Government Expenditures on Indeco Ltd. and its Subsidiaries</u>		
On Current Account:		
Subsidies and Grants	<u>518.0</u>	<u>307.0</u>
On Capital Account:		
Grants	450.0	-
Investments	6,402.0	2,145.0
Loans	3,544.0	-
Total	<u>10,396.0</u>	<u>2,145.0</u>
<u>Balance of Government Revenues (+) and Expenditures (-)</u>		
On Current Account	+6,014.0	+9,332.0
On Capital Account	-10,280.0	-220.0
Overall	-4,266.0	+9,112.0

Budget, 1970-1975

<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
8,628.0	9,202.0	6,324.0	3,753.0
1,072.0	1,520.0	919.0	149.0
-	-	-	-
1,728.0	1,293.0	1,107.0	70.0
<u>11,428.0</u>	<u>12,015.0</u>	<u>8,350.0</u>	<u>3,972.0</u>
<u>7,100.0</u>	<u>1,736.0</u>	<u>1,618.0</u>	<u>28.0</u>
<u>2,013.0</u>	<u>553.0</u>	<u>250.0</u>	<u>11,994.0</u>
960.0	924.0	1,748.0	3,323.0
396.0	1,150.0	2,723.0	-
200.0	451.0	1,788.0	3,552.0
<u>1,556.0</u>	<u>2,525.0</u>	<u>6,259.0</u>	<u>6,875.0</u>
+9,415.0	+11,462.0	+8,100.0	-8,022.0
+5,544.0	-789.0	-4,641.0	-6,847.0
+14,959.0	+10,673.0	+3,459.0	-14,869.0

than because of a belief in profitability as an indicator of economic efficiency. The financial flows between INDECO and the government are summarised in Table 7. It can be seen that there was a net flow to the government in all except the first and last years recorded, with a net flow for the whole period of K. 19.1 mn. From 1972 on, however, there was a clear declining trend, with a particularly sharp deterioration in the last two years. Moreover, the overall surplus of K. 19.1 mn. must be set in the context of the flows that could have been expected had the various companies been left in private ownership. It is not improbable that the sum of profits would have been larger, resulting in larger income and tax receipts, whereas there is no reason to expect there to have been any major expenditure by the government. Depending on the assumptions made, it is likely that the public finances would have been better off by K 40 to 60 million for the period as a whole had the companies remained in private ownership, although against this one must set the productive assets acquired by the state and the government's increased capacity to realise its socio-economic goals through control over PIEs.

One factor is that, while modest, the returns to government capital investments in INDECO were larger than was the case with the rest of the public sector. During 1970-74 returns on government loans to INDECO averaged 5.5% while returns from the remainder of the public sector were in the range of 0.9% to 4.2%. In 1975, however, the return from INDECO fell to 1.3% which was well below the average from the remainder of the public sector.

The availability of information is less satisfactory for the other countries in our sample, although there is something to be said on all of them. As regards Senegal it is impossible to disaggregate manufacturing concerns from the remainder of the public sector and the

Table 8. Senegal: Financial Results and Investment Financing of the Public and Private Sectors, 1974<sup>a</sup>

		(CFAF million)	
		<u>Public Sector</u>	<u>Private Sector<sup>b</sup></u>
1.	Revenue	42,208	95,029
2.	Costs		
	(a) labour costs	13,673	30,369
	(b) indirect taxes	13,778	35,588
	(c) other	4,381	6,472
	(d) total	31,832	72,429
3.	Direct tax payments	3,634	2,065
4.	Surplus after tax	6,742	20,535
5.	Depreciation	4,810	5,357
6.	Dividends	6,651	2,036
7.	Net investible surplus	-4,719	13,142
8.	Actual investment	8,887	10,022
9.	Resource surplus or deficit	-13,606	+3,120
10.	less government subsidies <sup>c</sup>	-3,869	-1,569
11.	Overall resource balance	-17,475	+1,551

Notes: (a) The following data relate only to the modern sector of the economy excluding phosphate mining.

(b) Derived as a residual

(c) Rough and incomplete estimate.

summary information in Table 8, which in any case is only for 1974, relates to the public sector as a whole (excluding phosphate mining). On the other hand, the table is of some interest because it facilitates comparisons with the private sector and makes a direct connection between financial performance and the financing of investment.

As can be seen from the lower lines of Table 8, the public sector incurred a substantial loss in 1974 - a loss of about CFAF 8.5 billion if we adjust the net surplus figures in line 7 for the effect of government subsidies (line 10). Even this under-estimates the deficit because of a variety of hidden subsidies not included in line 10. The public sector was hence unable to finance any of its new investment from its own resources and there was an overall resource deficit (line 11) of CFAF 17.5 billion. One puzzling aspect of this record is the very large public sector dividend payments (line 5), which alone absorbed virtually all the current after-tax surplus. It



does not seem that such generosity in the matter of dividend payments (many of them to private shareholders in mixed enterprises) could have been in the public interest, given the overall financial results.

By contrast, the private sector appears to have followed a more prudent dividend policy and this helped it to yield an overall resource surplus even after financing all its new investment. Seen in the context of the objective of economic growth this ability to generate an investible surplus is important. The public sector's failure in this regard hampered the growth of the public sector, and, therefore, the overall economy, as well as creating a large, unwelcome call on the public finances.

Table 8 refers only to 1974 but there is evidence that it illustrates a more persistent tendency for public sector deficits. This may be partly gauged from data present in table 9 showing that the central government has consistently had to finance the public sector by means of advances and loans. Table 9 shows that transfers to the public sector were below average in the calendar year 1974, and that the financial performance of the public sector may well have been worse in the years immediately before and after.

Table 9. Senegal: Treasury Advances and Loans to Public Sector, 1963/64 to 1976/77.

	(CFAF million)		
	<u>Public enterprises</u>	<u>Mixed enterprises</u>	<u>Total</u>
Total 1963/64-1969/70	2,394	5,706	8,100
1970/71	0	1,000	1,000
1971/72	307	2,833	3,140
1972/73	4,266	707	4,973
1973/74	50	300	350
1974/75	0	2,015	2,015
1975/76	900	5,013	5,913
1976/77	0	1,108	1,108
Total 1970/71-1976/77	5,523	12,976	18,499

No clear trend is apparent in the totals for the individual years 1970/71 to 1976/77 but for that period as a whole it appears that the public sector was considerably more dependent on the Treasury as compared with 1963/64 to 1969/70, even allowing for the distorting effects of inflation. It is also interesting that Mixed Enterprises have absorbed more than twice as much of the Treasury's resources as PEs. Evidently, a policy of partnership with private capital offers no assurance of profitability.

However, only part of the losses of Senegal's public sector show up in the government's budget, for the government has also used its control over certain banks and over price stabilisation funds to channel credits to the public sector in addition to those provided by the Treasury. That this has been a highly effective way of making additional resources available to the public sector may be inferred from the following figures on the short-term credit liabilities of the public sector. The following are annual average short-term credit liabilities in CFAF billions:

1971	7.36	1974	24.65
1972	12.39	1975	49.30
1973	14.44	1976	73.00 (est.)

The very large increase in liabilities recorded here quite overshadows the magnitude of transfers in Table 9. There was a total increase in liabilities of about CFAF 66bn. and an annual growth rate in these of 58% compound - over 5 times as rapid as the expansion of private sector liabilities.

Given this evidence, it is not surprising that the World Bank has expressed concern over the deteriorating financial position of the public sector. Even PEs "of a conventional industrial nature" are not self-financing. Although there is no complete data on the financing of mixed enterprises it was reported by the Financial Controller of the

Presidency that in 1974 fourteen mixed enterprises alone posted losses of CFAF 3.3 bn. Only five mixed enterprises had ever paid dividends to the government.

Data on Tanzania indicate a similarly poor financial performance, as can be seen from the first item in Table 10. In all except one of the six years recorded public manufacturing enterprises showed an operating deficit, and also on average for the period as a whole. This of course implies a net inflow of financial resources from the rest of the economy, the proximate source of most of this being the government Treasury, no doubt, but the ultimate source being the general public. Other evidence suggests a large increase in the size of the deficits in 1976-78.

The data in Table 10 also permits a comparison with the private manufacturing sector, which is shown as earning a surplus in all years except one and for the period as a whole. It could, of course, be maintained that such a comparison is inappropriate because it would not be expected that public enterprises would act as profit-maximisers. The fact is, however, that it is official government policy that, "profit is necessary whether an enterprise is privately or publicly owned". Public enterprise showed an average deficit on Tshs 8,341 per employee in 1970-75 compared with a surplus of Tshs 4,726 per employee in the private sector. The comparison is even more to the disadvantage of the public sector for the second half of the period.

Two qualifications are in order, however. First, there are especial difficulties about the quality of Tanzanian data, so that it would be unwise to place great reliability on precise statistical results. Second, while the generality of PIEs failed to make a profit, there were of course some notable exceptions.

We turn finally to the evidence on financial performance from Ghana. Table 11 presents profit-and-loss data on various PEs from 1965-65 and 1968-70. If we take all the units recorded there it

TABLE 10

Tanzania : Operating Surplus and Factor Productivity : Manufacturing Sector, 1970-75(In TSh)<sup>a</sup>

	1970	1971	1972	1973	1974	1975	Yearly Average
Operating surplus <sup>c</sup> per employee							
1. Private enterprise	9,334.6	-11,650.4	1,613.0	19,080.4	8,041.9	9,698.4	4,726.1
2. Public enterprise	-7,596.9	858.0	-13,218.2	- 771.7	-11,706.6	- 7,690.2	-8,341.3
Value added <sup>d</sup> per employee							
3. Private enterprise	26,414.2	1,334.0	23,538.0	18,866.0	28,589.9	32,536.4	22,205.9
4. Public enterprise	6,320.7	20,739.1	22,884.1	20,544.1	23,801.7	17,796.9	20,611.5
Operating surplus as proportion of value added							
5. Private enterprise	.353	- .873	.069	.661	.281	.298	.213
6. Public enterprise	-1.201	.041	- .578	- .038	- .492	- .432	- .405
Gross output per unit of operating capital <sup>e</sup>							
7. Private enterprise	12.24	29.29	18.67	17.74	20.68	14.15	18.10
8. Public enterprise	5.43	7.46	5.91	6.54	11.19	11.80	7.41

a The official exchange rate was 7 TSh = US \$1.00

b Calculated as weighted averages, weighted by different frequencies of observations each year.

c The difference between the firm's total receipts and its total costs that exclude government taxes and subsidies but include such items as wage and salaries, materials, utilities, rents and depreciation.

d A residual figure obtained by subtracting all intermediate input costs from total costs.

e Gross output is the total of wages and salaries, rents, depreciation, operating capital costs, operating surpluses, and indirect taxes less subsidies. Operating capital comprises materials and energy costs.

Source : Kim, 1981, Table 2.

is evident that the public sector was highly unprofitable in both periods (line 25), although to a lesser extent in the later years. The results appear even worse if we bear in mind that most of the figures are before provision for depreciation and taxation (see note (a) of the table). Clearly, the resource balance of the public sector was heavily negative during the 1960s. We unfortunately do not have comparable data for later years, which would, in any case, be badly distorted by the hyper-inflation experienced in Ghana during much of the 1970s.

That the basic situation may not have improved can, however, be concluded from the following recent comment on a claim by the Vice-President that some PEs make profits.<sup>1/</sup>

"So far as it is known, this is true of only a few. The losses made by the majority completely swamp the meagre profits made by the few, thus making it incumbent on the government to allocate millions of cedis every year to keep the state enterprises afloat. Some of the state enterprises that declare profits do not take all the circumstances into consideration. For instance, whilst no private enterprise would rush to declare profits without first considering the depreciation on both movable and immovable assets as well as allowing for interest on initial or current capital, the tendency is for the state enterprises not to provide for these factors."

When we confine ourselves more narrowly to PIEs unprofitability remains the general rule. This was so even in the years immediately before and after Independence in 1957. Thus, the Industrial Development Corporation accumulated an operating deficit of £ 4.0 mn. in 1950/51 to 1960/61 and for the manufacturing enterprises that were subsequently transferred to GIHOC the upper part of Table 11 records deficits for both periods. There was, however, a considerable reduction in the deficit between the two periods. GIHOC's best performers were a cocoa processing factory, a liquor distillery and a fruit cannery; in common with those in Tanzania, its two sugar factories made enormous losses. In contrast with Senegal, mixed enterprises did significantly

<sup>1/</sup> West Africa, op. cit. p. 681.

Table 11. Ghana: Profit and Loss Record of Selected State Enterprises, 1964-5 and 1969-70<sup>a/</sup>

	( ₵ thousands)	
	1964-5	1969-70
<b>A. GIHOC ENTERPRISES</b>		
1. Fibre bag factory	-318.8	+109.5
2. State boatyards	- 8.4	+ 90.4
3. Brick and tile factory	- 18.7	- 31.3
4. Tema steelworks	-295.4	-203.8
5. State cannery	+ 15.3	+548.2
6. Metal products	+ 24.4	- 67.7
7. Paper conversion	+ 2.1	+123.3
8. Sugar products - Asutsuare Komenda	-983.3 -208.5	-1,526.8 -1,212.5
9. Cocoa products, Takoradi	-506.5	+1,039.4
10. Paintworks	+117.9	+246.3
11. Vegetable oil mills	-323.8	-208.5
12. Marble works	+ 41.6	- 40.3
13. State distillery	+953.4	+857.5
14. Electronic products	+ 29.8	+100.3
15. SUBTOTAL of above (net)	-1,479.0	-176.0
<b>B. PUBLIC CORPORATIONS, etc.</b>		
16. National Trading Corp.	+6,514.5	+2,668.0
17. State farms Corp.	-12,732.5	-1,361.0
18. State fishing Corp.	-239.5	-338.3
19. State Construction Corp.	+353.9 <sup>b/</sup>	-614.7
20. State Gold Mining Corp.	-2,689.2	-6,754.1
21. State Hotels and Tourist Corp.	-137.4	+51.5 <sup>c/</sup>
22. Ghana Airways	-3,573.2	-2,857.4
23. Food Marketing Corp.	-133.6	-237.9
24. SUBTOTAL items 16-23 (net)	-12,637.0	-9,443.9
25. GRAND TOTAL (net)	-14,116.0	-9,619.9

<sup>a/</sup> All commercial-type public enterprises are recorded here for which financial data exist for both 1964-5 and 1969-70. The figures are 12-monthly averages of available data falling within the two-year periods. In most cases it is believed that the figures are for profits/losses before provision for depreciation and taxation. In some cases, however, the figures are after depreciation and/or taxation, and in others the figures are trading results only, i.e. before provision for overheads, etc. It is possible that some of the figures are after provision for government subsidies but subsidies have been netted out whenever possible.

<sup>b/</sup> 1963 figure

<sup>c/</sup> Consolidated results of corporations responsible for hotels and tourism.

better. All but one of the 14 mixed enterprises for which figures are available were making profits in 1966-67.

It should also be noted from Table 11 as also from Table 6 on Zambia, that there are very large differences in financial performance as between individual enterprises. This is not surprising, for we would expect there to be large differences in the competitive situations of enterprises operating in different industries, including differences in the degree of state protection. One of the issues thrown up by large differences in financial performance of PEs is the inefficient resource allocation that tends to result from cross-subsidisation. There must be a tendency in such situations for the more efficient (or anyway the more profitable) enterprises to be 'milked' in order to keep inefficient enterprises alive, especially when PEs are organised into holding companies like GIHOC and INDECO.

Finally, it is important to question the economic significance of the financial performance of PEs in our four countries and elsewhere. This issue is raised explicitly in the literature on Ghana, where it is pointed out that profitability is a reasonable efficiency indicator only in competitive market situations but that many PEs do not operate in a freely competitive milieu. The monopoly of Ghana's PEs was illustrated by the fact that in 1969, 83% of the total gross output of PEs was produced in industries in which state concerns contributed 75% or more of the total output of the industry. In six industries PEs accounted for total output. Estimates revealed no correlation between social and commercial rates of return of PEs; and some of the apparently most profitable enterprises (including the distillery and cocoa products factory in Table 11) owed their existence wholly to very high levels of protection from foreign competition and had negative value added when estimated at world prices. Other limitations on competitive freedom pull in the opposite direction, towards unprofitability, as in cases where PEs are forced to maintain artificially low prices

without adequate compensatory state subsidies. As will be mentioned later, this has had a particularly adverse effect on agro-based PEs in Zambia.

The universal tendency for governments to apply the profitability test, the implications of financial performance for the public finances and for the resources available for productive investment require us to take this criterion seriously but limitations of profit-and-loss as an indicator of economic efficiency should also be borne in mind. The next section examines such limited evidence as is available on alternative performance indicators.

#### Productivity and growth

In the absence of the data needed for econometric estimates of marginal productivities of the two factors separately, it must suffice here to speak of productivity in the sense of average value added (or output or turnover) per man or per unit of capital. The best evidence on labour productivity, so defined, is on Ghana and is summarised in Table 12.

Looking for the moment at the last sub-period, 1969-70, it can be seen that labour productivity in PIEs was well below that in private concerns and even further below the rather exceptional figure for mixed enterprises. The contrast with the private sector occurred despite the fact that the structural composition of the state and private manufacturing sectors were similar. And the finding that average productivity in PIEs was only 55% of the private sector figure in 1969-70 was almost exactly the same as the result (56%) of an independent comparison of productivities in industries inhabited by both private and state concerns. It was also consistent with a study of PEs in the 1950s, which also found sub-private productivities. The adverse result for the public sector in Table 12 is all the more



Table 12. Ghana: Comparative Labour Productivities and Costs in Manufacturing Enterprises by Type of Ownership, Selected Periods (means of two-year periods)

	1962-3	1965-6	1969-70
Value added per person engaged <sup>a</sup> (¢)			
1. Private enterprises	1,635	1,755	1,424
2. Joint state/private	4,503	4,415	2,871
3. State enterprises	748	690	784
4. State as % of private	45.7%	38.9%	55.1%
5. State as % of joint enterprises	16.6%	15.6%	27.3%
Total wages and salaries as percentage of total of value-added <sup>b</sup> (%)			
6. Private enterprises	23.4%	23.4%	23.9%
7. Joint state/private	14.0%	13.5%	17.4%
8. State enterprises	51.0%	46.1%	30.6%

Notes: (a) Calculated in constant, 1962, prices.

(b) Calculated in current prices.

noteworthy because, as will be shown later, it is generally the more capital-intensive, which should result in higher rather than lower labour productivities.

However, Table 12 does show an improvement in the relative performance of PIE during the late 1960s (see lines 4 and 5). By this measure, they remained less efficient than other manufacturing firms but they were at least catching up. Various steps were taken after a change of government in 1966 to strengthen PIE managements and there may also have been improvements resulting from the results of the newer enterprises overcoming their teething troubles. It would be particularly interesting to discover whether this relative improvement was sustained in the 1970s.

The outstanding high productivities in joint state-private firms should also be noted from the table, although there was a fall in the second half of the 1960s. This is probably influenced by the fact that a higher proportion of mixed enterprises was in the heavier industries and probably also run by more efficient management.

These contrasts in average labour productivities were naturally likely to give rise to differences in cost levels, and lines 6-8 of Table 12 permit some inferences to be drawn. As can be seen, wages absorbed substantially higher proportions of value added in PIEs than in the other two groups, creating a likelihood that unit costs were higher in PIEs. However, it appears that productivity grew more rapidly than average earnings in PIEs, while they moved roughly together in the private sector, so that the relative disadvantage of the PIEs (or the relative advantages of their workers) had been considerably reduced by the end of the decade.

Data on the average productivity of capital in Ghana, similar to the data in Table 12 are unfortunately not available and we are forced to use information on capacity utilization as a rough indicator of the efficiency of capital use. Such evidence implies a low productivity in PIEs, although the information is very scrappy. There is an estimate for 1963-64 - years of considerable economic dislocation - that the actual output of PIEs was only 29% of rated capacity. There is also evidence on a number of individual PIEs, mainly for the late 1960s, indicating very low levels of utilisation - in enterprises as diverse as footwear, sugar, copra, oil, alcohol distilling and fibre bags.

Of course, this information is almost absurdly out of date but it is known that industrial capacity utilisation generally remained extremely low throughout the 1970s and to the present time. What we do not know about is the relative achievements of the public and private sectors during these years.

Turning now to Tanzania, reference can be made to column (4) of Table 3 which provides an index of value-added per man in PIEs. This shows a marked decline in 1967-71 and a more gradual downward drift thereafter. The figures for the earlier years should probably be discounted because it was during this time that the public sector was

being rapidly expanded by nationalizations and the industrial structure underlying the index series was thus undergoing large changes. The downward drift from about 1972 is probably more meaningful and indicates a roughly 15% decline in productivity.

The data in Table 10 provides additional revealing information, although for a smaller sample of PEs and uncorrected for the effects of inflation. If we make some provision for rising prices, a decline in real value added per employee can be inferred from line 4 of the table. Of even greater interest, however, is a comparison with equivalent data for the private sector, showing for the period as a whole that PE labour productivity was only 90% of that of the private sector, even though it can be inferred from the table that the public sector was more capital-intensive than the private sector. The comparison for the final two years of the period is even more to the disadvantage of the PEs.

The greatest contrast, however, is provided in lines 7 and 8, recording gross output per unit of operating capital, although the figures should be taken as indicative rather than precise. By this measure, the average productivity of capital in PEs was only just over 40% of the private enterprise figure, taking the period as a whole. In this case, however, there did at least appear to be an improving trend, so that in 1974-75 the PE average was about two-thirds of the private figure.

The information on Tanzania also permits a discussion of the contribution of the public sector to the industrialization of the economy. Statistically, industrialization can be indicated by a rising share of industrial activities in GDP and in Tanzania the share rose from 8.1% of GDP in 1966 to a peak of 11.4% in 1972. Thereafter it drifted down again and was 9.3% in 1978. The period of rapid industrialization was also the time in which the public sector was being rapidly

expanded by means of nationalization. It thus cannot be said that nationalization disrupted industrialization, at least in the short-term. While it is true that there has been some de-industrialization since 1972 (in the statistical sense of a declining contribution to GDP) this appears to be largely attributable to exogenous and internal factors making for a general economic slow-down rather than a result attributable to the public sector alone. Indices of public and private manufacturing value-added have values of 121 and 123 respectively for 1978 (with 1972 = 100), with the series for the private sector lagging behind for all except the final year. What would be particularly interesting to know is the internal growth record of individual PEs but this information is not available for any of our countries.

There is little to be said under this heading regarding Senegal, except that there appears to have been a decline in the contribution of the public sector. Total sales of all non-agricultural PEs in 1973/74 were a little under the 1966/67 level, which must have meant a considerable decline when adjusted for the effects of inflation. There was a substantial rise in the nominal value of sales in 1974/75 but this appears to have been largely a price effect. This information, however, relates to all non-agricultural PEs and is not confined to manufacturing.

Finally there is information on Zambia which may allow us to draw some inferences concerning productivity trends in PIEs. We have information on the turnover of INDECO subsidiaries (although it must be borne in mind that not all of them are in manufacturing) and of the number of employees. To adjust for the effects of inflation, we deflate by the Zambian wholesale price index and obtain the following constant (1975) price estimates of turnover per worker (in K 000s):

1969/70	11.05	1973/74	13.12
1970/71	9.27	1974/75	12.70
1971/72	15.12	1975/76	13.16
1972/73	15.09		

For the first few years INDECO was in the process of acquiring a number of new enterprises, so that only from about 1972/73 do the series relate to a fairly settled mix of activities. From then, as is apparent, there has been a marginal tendency for a downward drift in turnover per man, which might indicate a similar trend in average productivity, although such an inference can only be tentative.

Balance of payments effects

It is almost impossible to say anything substantial about the balance of payments effects of PEs in our four countries, which is particularly to be regretted given the critical nature of the payments constraint in much of sub-saharan Africa. There is evidence from Ghana that in the late 1960s PIEs were inefficient earners or savers of foreign exchange, in terms of domestic resources used per unit of foreign exchange, but no more so than the private industrial sector. Domestic resource cost calculations for individual PEs revealed a wide spread, as might be expected, including a number with negative value added at world prices, but there were others with more favourable locations on the spectrum of efficiency.

In the case of Tanzania, the data show that manufactures have contributed a declining share of total exports in recent years, falling from a peak of 21.9% in 1971 to 14.7% in 1978, but this decline may have more to do with the erosion and ultimate collapse of the East African Community than with the structure of ownership of the industrial sector. Dependence on imported consumer goods has diminished very considerably since the early 1960s, with a corresponding increase in the share of

imports of intermediate and capital goods. PIEs have no doubt contributed to this process of import substitution but a number of them are known to be highly dependent on imported inputs and it is impossible to say what the net foreign exchange effect may have been. In making such a calculation it would, of course, be important to include the outflow of compensation payments as a result of nationalisation but also the diminished flow of dividend repatriations (the same applies to the other countries as well, of course, although Ghana has made little use of nationalisation). In Tanzania the government's policy of extending state industry into the production of intermediate and capital goods may have adverse payments effects in the short run, because such industries tend to be particularly dependent on foreign technology and know-how. In the longer term, of course, the expectation is that this pattern of industrialisation will result in net savings of foreign exchange but the success of this strategy relies on enough foreign exchange being earned by the remainder of the economy in the interim to permit the realisation of the long-term goal. Tanzania's well-known balance of payments problems suggest that this condition is not being met at the present time.

Estimates have also been made purporting to show the net balance of payments effects of the public sector in Senegal. Excluding petroleum and phosphates, these show that in 1974 public sector operations resulted in a net loss of foreign exchange of CFAF 14,883 million, with modern sector private activities recording a net loss of CFAF 26,957 million. However, these estimates do not include provision for foreign exchange saved through import substitution, nor do they include any items relating to investment income and capital flows, so they are seriously incomplete. One particular feature of this country's record has been the major involvement of PEs mixed enterprises in the accumulation of foreign debt. By 1975 their external indebtedness amounted to \$163.5 million, 67% of total external debt (against only

16% ten years earlier). The servicing of this debt cost \$23.4 million in 1975, or 62% of total external debt servicing - a considerable out-flow of foreign exchange. At that time there was no serious balance of payments constraint. If the debts of the public sector have continued to grow since that time they may now constitute a more serious factor in the much more difficult payments environment of the early 1980s, and we note in this context that debt servicing absorbed 13.7% of total export earnings in 1979.

#### Employment and distributional effects

We might distinguish four aspects of the employment effects of PEs, although this results in an analytical framework stronger than the evidence to put inside it. One desired effect throughout the continent is the Africanisation of employment opportunities - a policy which particularly relates to managerial, professional and skilled positions but which spreads rather further through the labour force in the Francophone countries. There is secondly the creation of productive new employment opportunities through the organic growth of existing PIEs or the creation of new enterprises (as distinct from the take-over of existing private enterprises, which may result in no new net employment). There is thirdly the 'creation' of non-productive employment through over-manning. Finally, there is the choice of production techniques and the factor proportions these embody, which have an influence on the other three aspects.

The extremely limited evidence available suggests (a) that substantial Africanisation has indeed been achieved; (b) that there has also been a good deal of over-manning; (c) that less success has been achieved in the creation of new productive employment; and (d) that PIEs have not generally pursued a policy of choosing labour-intensive techniques. On this last point, there is evidence suggesting that Ghana's public

sector is particularly prone to capital-intensity. Documented examples of this include two sugar factories and a state footwear factory (which installed conveyors to undertake tasks which were not even mechanised in the US). Related to this was a consistent tendency for the state to opt for project designs emphasising grandeur rather than economy, with a particularly strong bias towards the over-design of factory and ancillary buildings. The evidence points in a similar direction in Tanzania. Here too there are a number of examples of capital-intensity and one suggested reason for this is that the government has been content to leave the choice of technology to foreign contractors who may have strong pecuniary interests in drawing up designs which result in large orders for equipment. There may also be a prejudice within governments against the adoption of labour-intensive technologies which are regarded as technologically backward. Thus, the contract for a (financially disastrous) fertiliser factory specified that the foreign contractor should "select the most modern processes corresponding with the latest technical development in the chemical industry".

It goes without saying that any bias towards capital-intensity can only subvert the employment-creation objective, which is one reason for fearing that PIEs may not have resulted in a great deal of new productive employment. Another is the absence of any strong evidence of strong growth of output within individual PIEs. Most of the growth of the public sector has simply been the result of take-overs (except in Ghana, where many new enterprises were created in the earlier 1960s) and it was shown earlier that the growth of the public sector tends to quickly level off once the period of nationalisation is over.

There is little doubt, however, that the growth of state enterprise has been associated with an accelerated Africanisation of industrial employment, especially at managerial levels. This has certainly been the case in Zambia. Particular emphasis has been placed there



on training programmes for Zambian personnel and on replacing foreign management with local ones. As a result, 96% of the total INDECO labour force was Zambian in 1974/75, although the proportions were, of course, lower for technical and executive posts. A similar trend is observable in Senegal, where there was probably greater initial scope for Africanisation. It was reported that by 1977 70% of all managerial and technical personnel in the public sector were Senegalese, against only 32% in the private sector. The proportion of nationals in total public sector employment was the same as that just reported for Zambia, at 96%, against 92% in the private sector. Although precise data are not available, similar results have certainly been secured in Ghana and Tanzania. For none of the countries is there any precise evidence on the possible efficiency losses resulting from accelerated Africanization, for this is a subject too sensitive for investigation.<sup>1/</sup> There are, of course, good a priori reasons for expecting such losses to be significant. The absence of evidence is regrettable because it would be desirable for governments to relate the speed of Africanization to the efficiency costs of alternative approaches.

Accelerated Africanisation also has distributional consequences, of course, which is one of the chief motives for it. Above all things, it is likely to result in a shift in the total wage bill away from foreigners and towards nationals, which would be universally regarded as desirable within African states. However, it may also widen income disparities among the African labour force, since a high proportion of the jobs formerly occupied by foreigners were in high-pay occupations. There would be much less unanimity about the desirability of this change.

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<sup>1/</sup> There is evidence from Ghana's publicly-owned gold mines, however, where an official report included over-rapid Ghanaianisation as among the reasons for low efficiency.

There are at least two other ways in which the growth of public enterprise has tended to affect income distribution. First, it has sometimes been used to achieve a wider dispersion of economic activity across the country, as has been done in Ghana and Zambia. Second, it is possible for governments to use their control over PEs to subsidise consumers. Zambia also provides evidence of this, including the maintenance of artificially low prices for the products of agro-based industries (especially vegetable oil products). If the products in question are particularly important in the consumption patterns of low-income groups, such a policy may be used as a rough-and-ready way of reducing (or preventing an increase in) disparities in real incomes across socio-economic groups. The qualifying clause is an important one, however, and for a wide range of products the net effect of this form of subsidisation is ambiguous. In Ghana (where PEs have also been used in this way), for example, it was found that price controls designed to reduce inequalities actually operated in ways which tended to increase inequalities.

So while we can be confident that PEs do have distributional consequences, it is impossible to say whether the general effect of these is to reduce or increase the skewed distribution of real income. Public enterprise does not necessarily have much direct connection with those approaches to socialism which emphasise the importance of reducing inequalities.

#### Conclusions on economic performance

The evidence on economic performance considered above is obviously unsatisfactory: incomplete, anecdotal and unreliable. It is also probably biased towards negative findings because unsatisfactory performance is more likely to be investigated and reported than the

records of successful enterprises. Nevertheless, it is the best evidence available and we should therefore ask what general conclusions are suggested.

Of the four countries studies, only in Ghana has there been an attempt at an overall explanation and it may be worth quoting this at some length (p. 227).

"In the end, it has proved harder to use a single criterion of comparative economic performance, which is analytically satisfying and amenable to empirical testing, than it has been to characterise the general standard of economic performance of Ghana's public sector. Despite measurement problems, the spotty nature of the evidence and substantial variations between specific enterprises, it may be fairly concluded that the comparative economic performance of the public sector was poor in the sixties.

State enterprises were unprofitable - absolutely by comparison with the public enterprises in other developing countries and by comparison with private enterprise in Ghana, and they were unprofitable despite considerable monopoly powers. While profitability is an unsatisfactory yard-stick, data on relative productivities, unit costs and balance of payments effects also point fairly unambiguously in the direction of poor comparative performance".

If we were in a position to write a comparable verdict on PEs in our other three countries, it would probably be less negative than for Ghana, whose public sector faces particularly severe problems. Nevertheless, it is difficult from our evidence to point with confidence to any substantial achievements, except in the area of Africanization. Perhaps the most authoritative general evaluation of PE performance is that made recently in the World Bank's Accelerated Development in Sub-Saharan Africa (1981, p.38):

"With the exception of the mineral-exporting parastatals and some of those trading in export crops, public enterprises have thus far caused serious fiscal burdens. They do not pay taxes. Most of their investment costs are covered by transfers (from government budgets, the banks, or marketing organization surpluses); in some cases their cash surplus is less than their depreciation; and in a few instances cash flow does not even cover running costs. A number of the manufacturing parastatals - and mixed public-private enterprises - are moderately profitable. But this is usually because they enjoy very high levels of protection from the world market, explicitly in the form of a heavy duty on competing imports, or implicitly because components are imported duty free. In many cases their value added

at international prices is but a fraction of their value added at domestic prices, in some cases value added may even be negative. In general, because the parastatals in the commercial sectors generate so small a surplus, their growth has been limited by the availability of the resources they can command from governments."

It is certainly the case that governments or ministers themselves often express their satisfaction with the results achieved by state enterprises, as in the case of President Kaunda, who very sharply criticized parastatal manufacturing companies for their inefficiency and went so far as to praise companies with large private share-holdings and expatriate managements for achieving greater efficiency (which characteristically equated with profitability).

We are particularly concerned here with the ability of PEs to contribute to industrialization and the results reported above are not encouraging in this respect. Of special significance is the evidence showing that public sectors generally have negative resource balances, as reported previously. This means that PEs are unable to generate the surpluses needed to meet their own investment requirements. In the absence of large government subsidies or injections of funds from outside, this necessarily limits the contributions they can make to an on-going process of industrialization. Such evidence as we could bring together on trends in real output and in productivity reinforce the impression of an undynamic public sector, failing to display those improvements that would normally mark an expanding industrial sector.

There is also a consideration which has not been referred to so far: the impact upon private industry of policies which favour a large public sector. In three of the four cases, the public sector was largely created on the basis of nationalization or compulsory acquisition of part-ownership. This was not true in Ghana but nevertheless the policies which led there to the rapid growth of state industries in the first half of the 1960s also discouraged

private investment, which has since remained at very low levels. If, as seems likely, the creation and maintenance of a large proportion of state industries has the effect of discouraging private investment - by creating uncertainties about the future security of ownership, about the state's attitudes towards private enterprise and profit, about the extent to which private concerns will be allowed to compete fairly with public enterprises, and so on - then it seems exceedingly unlikely that public ownership has contributed positively to industrialization.

This does not necessarily mean that state industry has been a mistake, however, for it was shown earlier that governments have had a number of objectives in setting up PIEs, in addition to the promotion of industrialisation. More particularly, we would like to stress that all the criteria applied above have related to economic performance, as if governments give most weight to economic objectives. This is far from necessarily the case, however. Political and social goals may carry greater weight in practice. So while governments frequently grumble about "inefficiency" in PEs it is very rare indeed for any of these to be closed down or sold off, which suggests that they must be perceived as satisfying some (albeit non-economic) objectives.

#### C. DETERMINANTS OF ECONOMIC PERFORMANCE

Having surveyed the evidence related to economic performance, the next step is to examine its determinants. Here too, the evidence is extremely incomplete but nevertheless suggestive. In undertaking this task, it is useful to draw a distinction between the influence of economic conditions tending to impair industrial performance generally and those factors bearing particularly upon the performance of PIEs.

The economic environment

In the circumstances of the four African economies a number of factors act as a drag on industrial efficiency in general. These include the often very small size of the local market; unreliability of local sources of supply; shortages of foreign exchange; inadequate infrastructure; and a variety of uncertainties which make forward planning very difficult. Of these, shortages of foreign exchange appear to have been particularly serious in three of the four countries (there was no balance of payments problem in Senegal during the period in question). Thus, in Tanzania industry has suffered seriously from shortages of raw materials resulting from inadequate foreign exchange allocations and the same is true of Ghana and Zambia. Even though the import licencing authorities in Ghana discriminated actively in favour of the public sector, PIES nevertheless experienced difficulties in obtaining adequate allocations at the right times, so that factories have been subjected to frequent and prolonged stoppages. In all cases, these types of shortage have contributed seriously to the under-utilisation of capacity, reported earlier.

In landlocked Zambia transport problems are cited as creating particularly severe difficulties. Port congestion has led to prolonged project completion times, interruptions in production, and higher financial charges to maintain abnormally large inventories. The extended pipeline, and fairly frequent re-routing, for getting goods from the ports into the country have also contributed to increasing costs, although these problems may be eased as a result of Zimbabwean independence.

In Ghana there have been adverse effects of the disintegration of economic organisation and decision-making that became apparent in the first half of the 1960s and has persisted in varying degrees ever since. Examples are provided of how the inadequacies of some parts of

the public sector impose costs on other parts, thus tending to create a vicious circle situation. In Zambia, various PIEs have been much affected by the fluctuating fortunes of the copper mining industry, partly because these have a powerful impact on total consumer demand but also because the industry is itself a large purchaser of certain manufactured products.

In addition to such general economic considerations, however, there are other factors more specific to public enterprise which have important bearing upon their economic efficiency, to which we now turn.

#### Project planning

There is evidence that deficiencies in project planning have contributed substantially to sub-standard economic performance. Thus, one observer of PEs in Tanzania has commented that "Each project mushroomed in its own way without taking into consideration the local resources, linkages to other industries and not even considering the development needs of the country. For example, the linkage between cement and fertiliser industries in the use of sulphuric acid was never conceived of". Another study of the fertiliser factory has demonstrated the disastrous results that can follow when an inadequate feasibility study, undertaken by contractors with a pecuniary interest in the outcome, is scrutinised by an inadequately staffed government agency.

In Senegal the situation is similar. The rapid growth of the public sector took place in an "uncoordinated and unplanned fashion", sometimes without sufficient consideration for the impact on the economy or the public finances. Procedures for the evaluation of proposed investments in PEs were not followed, resulting in agreements with commercial sponsors over which the Ministry of Finance had no effective say.

In Ghana a wide range of planning deficiencies may be discerned. Poor planning resulted in the choice of excessively capital-intensive techniques, in poor technical designs, in serious mistakes on the location of projects, in major construction delays (as have also occurred in Zambia) and in very poor co-ordination of the agricultural and industrial aspects of the projects intended to process locally-grown raw materials. As in the Tanzanian case, examples can also be given of the negative effects of relying upon inadequate feasibility studies, often conducted by consultants with pecuniary interests in the outcome of their studies, resulting in a systematic bias towards over-optimism in predicted results.

#### Financial considerations

There are actually two rather different factors to consider under this heading. The first is the tendency for governments to use their control over PE policies to hold prices down and thus subsidise the final consumers. Our chief example of this relates to various agro-based industries (largely producing vegetable oil products, detergents and soap) in Zambia. Stringent government control over the prices of refined oils and fats contributed heavily to large financial losses by the companies because the government was reluctant to make adequate financial provision for subsidies to cover the effects of its pricing policies. The result was not only to worsen the profitability of the enterprises, so that they even had difficulty in covering the cost of their factory operations; it also lowered morale and led to a shift in the product mix away from the production of oils and fats, which was precisely the opposite of the government's apparent social priorities. There are similar examples of such situations in Senegal and Ghana, although these happen not to relate to manufacturing



A second factor to consider here is the frequent complaint that PEs tend to be under-capitalised and to be badly affected by shortages of working capital. Thus, it has been complained that the Senegal government has in some cases over-extended its financial means with its ambitious programmes of investments in the public sector, with the result that many enterprises are inadequately capitalised and hence unable to realise their objectives. (It is also reported in this case that the government often does not pay its bills to PEs, thus also undermining their financial strength). In Ghana, GIHOC (and before it, the Industrial Development Corporation) has complained that it was funded with inadequate working capital.

The difficulty with this type of complaint is to disentangle cause from effect. Under-capitalisation can undoubtedly be a cause of poor economic performance, but poor performance can equally be a cause of under-capitalisation, in the sense of inadequate stocks of working capital. The public sector tends to be associated with a negative resource balance and this not only reduces its ability to self-finance fixed capital formation but also working capital needs as well. Careful and detailed research into the IDC came to the conclusion that its real difficulty was not shortages of funds but its inability to find profitable investments and to administer its projects. As its managerial weaknesses became increasingly evident, government confidence in IDC diminished and ministers were increasingly tempted then to interfere in its day-to-day operations, which made matters worse. Poor performance, shortages of funds and deteriorating relationships with government became a mutually reinforcing vicious circle. The overall conclusion on the alleged under-capitalisation of Ghana's public sector was that this represented an example of what has been termed as a 'capital shortage illusion' and that a more serious problem was the low productivity of those public sector investments which did occur.

Over-manning

A tendency to engage larger labour forces than is necessary to achieve given levels of output is a further source of weakness. There are documented complaints about over-manning in Senegal and Ghana but this is so pervasive a problem that it almost certainly features in Tanzania and Zambia as well. In the case of Senegal the financial consequences of over-manning are compounded by the pursuit of a high-wage policy. Thus, in 1974, the average salary in the public sector was 14% higher than in the private sector and 10% higher than in the civil service. With more Senegalese nationals in the higher paid jobs, the average earnings of Senegalese employees of the public sector were 39% more than for Senegalese in private activities.

That inflated labour forces are a serious problem in Ghana is suggested by a 1966 report by the State Enterprise Secretariat complaining that "Overstaffing is one of the major problems of state corporations. There is hardly any enterprise which is not overloaded with redundant staff". Various examples are available of specific PEs which suffered from this problem, including the extreme example of a bamboo processing factory which was found in 1966/67 to have spent just C219 on raw materials while salaries amounted to C16,184! Over-manning is also a serious problem among the PEs of Tanzania, the financial effects of which are compounded by wage rates more than a quarter higher than in the private sector.

This tendency towards over-manning must clearly be related to governments' employment creation objectives. Even though it is easy to show that forcing PEs to employ more people than they need is an absurdly inefficient and inequitable way of providing unemployment

relief, there is no doubt that over-manning is at government insistence. On the other hand, it is too easy to blame it all on the politicians: the Ghanaian evidence suggests that some of the problem is also due to weak, inefficient managements only too happy to pass the blame on to the government.

#### Shortages of managerial and other skills

Under this heading, it is convenient to begin with the findings of the World Bank study of Senegal. This breaks down the management problems of the public sector into four aspects: (a) the number of trained managers and middle-level technicians; (b) accounting; (c) relations with supervisory ministries; and (d) the role played by the boards of directors. It focusses particularly on the second of these: "The lack of proper accounting and accurate data is probably the single greatest impediment to reform of the para-public sector". Accounting standards are low; budget rather than analytical accounting is employed; managements and the government lack data essential for monitoring and efficient operations.

There is also a complaint of a general shortage of managerial and skilled workers. The private sector is apparently still attracting the best managers and some PE managerial posts were filled on grounds other than proven ability. Training schemes were inadequate and not well suited to meet enterprise needs. Boards of Directors were unable to carry out their proper functions, being too large, disparate and inexpert. As a result, Board meetings tended to "become disputes among enterprise management, supervisory ministry representatives and the enterprise control agencies". In other respects too relationships

with supervisory ministries tended to be unhelpful and to result in excessive interference with day-to-day management.

Kim's study of PIEs in Tanzania also finds evidence for the importance of the managerial factor in accounting for sub-standard performance. Accounting weaknesses are also evident in Tanzania. Thus, the 1979 report of the Tanzania Audit Corporation (TAC) notes that,

Approximately 100 parastatals were in arrears in the preparation of their accounts for one year or more... out of 247 accounts of parastatals certified during the year, only 76 got unqualified audit reports; 138 got qualified reports, 15 received Negative Opinion reports and 18 Disclaimer of Opinion reports.

However, the potentially valuable role of the TAC was apparently undermined by indifference in PE managements, many of whom simply ignored what it had to say. The TAC also states that some Boards rarely meet, even on an annual basis, and are thus unable to exercise any overall control and guidance. More generally, there are complaints in Tanzania about the calibre of PE managements. In Zambia too INEDCO suffers from a dearth of experienced Zambian managers, a problem which has become more acute as Zambianisation is extended.

A similar pattern of complaints also hold true for Ghana. Thus, among the PIEs the State Enterprises Secretariat complained of shortages of skilled and supervisory personnel, resulting in haphazard planning and budgetary control, and the Auditor General lamented the dearth of qualified accountants. There are many illustrations of poor management in industrial enterprises and again one symptom of this was the conclusion of the Auditor General that "Generally, the accounts of the Corporation, with but few exceptions, were improperly kept and there was undue delay in the production of final accounts". Echoing the earlier comment on Senegal, he also complained of a politicisation of managements, where " the primary consideration for the selection of a Chairman of a Corporation was his party

affiliation..." Some attempts were made to overcome manager weaknesses by entering into contracts with foreign concerns but these were often poorly designed and produced indifferent results. The use of managerial appointments as sources of political patronage, of course, represents one of the chief ways in which the political and economic motivations for the creation of PEs conflict with each other. When such a conflict becomes apparent, the evidence suggests that it is often resolved in favour of political advantage, notwithstanding the economic costs.

### Corruption

Only two firm statements are possible about this: (i) that corruption is both a potential and an actual source of sub-standard PE performance, but (ii) that it is impossible to obtain the evidence necessary for any balanced appraisal of the relative importance of this factor. There is surely no doubt that in each of the countries studied corruption has had adverse effects on some decision relating to investment, purchasing, marketing and personnel hiring policies, and so on. There is equally no doubt that there are honest men as well as corrupt, and that many decisions are uninfluenced by considerations of illicit gain. Beyond that it is difficult to go, except to note that the issue of corruption was rather thoroughly investigated in Ghana after the overthrow of Nkrumah and that this included examination of a number of PEs. Various malpractices were uncovered and it would be possible to take a 'tip of the iceberg' view of these to argue that corruption had a most serious impact on PE efficiency. On balance, however, the Ghanaian evidence (for the period) suggested that corruption was only a secondary reason for sub-standard performance. The position may be different in Ghana today because what has become known as

'kalabule' has almost been legitimised as a necessary means of supplementing what otherwise would be quite inadequate wages and salaries. In this as in various other respects, however, Ghana represents a rather extreme case.

#### The political milieu

Of all the factors considered in this section, many would place the greatest weight on political factors tending to undermine PE performance. Thus, an early comparative study of the performance of various public corporations in Ghana, Nigeria and Uganda found performance to have been best in the latter country because they had not at that time been politicised to the extent that had occurred in the West African countries. It concluded that the political milieu was far the most important determinant of economic efficiency.<sup>1/</sup> The work on Ghana which has been utilised here reinforces this conclusion. It talks of a "trivialisation of political control", meaning a general disinterest of governments in matters of general policy combined with frequent interference in the everyday operation of the enterprises. This, of course, is entirely contrary to the theoretical model, based on the British concept of a public corporation, in which management has responsibility for day-to-day operations within general policy guidelines laid down by the responsible minister.

In the case of Ghana, the most fully studied industrial example is the IDC. There was an almost complete lack of clarity about what the government wanted IDC to do. When the government became dissatisfied with its performance and wished to formulate a new policy, it left it

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<sup>1/</sup> C.R. Frank in G. Ranis (ed.) Government and Economic Development (New Haven, Yale U.P., 1971), p. 117.

to IDC and an outside expert to formulate this policy. When what was submitted turned out not to be new at all it was accepted by the government just the same, and there were further examples of a lack of effective policy guidance. Similarly and subsequently, GIHOC also stated that it received no policy directives from responsible ministers; detailed research on Ghana's state gold mines revealed a similar governmental disinterest in general policy.

That this is by no means a problem peculiar to Ghana is indicated by the World Bank study of Zambia. This reports much concern in government about bringing PEs "under control" but no clear idea of the purposes for which such control might be exercised:

In order to bring parastatals into line with policy objectives there has to be a clearly articulated policy with guidelines for its implementation. Government has not provided such guidelines: until August 1977 there was no Investment Code and national planning is weak. Even on a project-by-project basis, many Ministries are not well equipped to provide supervision.... In some cases policy guidelines simply do not exist, in others there are contradictory policies, and in still other cases guidelines exist only on paper and are dealt with quite differently in practice.

Information on Senegal illustrates another aspect of the trivialisation of political control, namely a great deal of governmental intervention in detailed operational decisions. The evidence on this aspect is the fullest for Ghana, however. Thus, an early independent report on the IDC complained of outside interference from politicians and others, expecting appointments to be made irrespective of merit, redundant staff to be kept on the pay-roll, disciplinary measures to be relaxed on behalf of constituents, businesses to be purchased at inflated prices, loans to be made irrespective of security and so on.

There is also a different, but probably also rather pervasive, problem to mention under this heading, which is the difficulty which PEs often discover in developing satisfactory working relationships with the civil service. Quite apart from the problem of detailed

interference, there is a frequent complaint that civil service procedures are too cumbersome to meet the needs of commercial operations. This tends to be particularly true of budgetary procedures - an important matter because we have seen earlier that many PEs are dependent on budgetary support for investment financing and for working capital requirements too.

D. CONCLUSIONS

On the role of the public sector in the industrialization of the countries analyzed

If, for the time being, it is assumed that the often tentative interpretation placed upon the case materials are correct, then a clear conclusion emerges to the effect that in the four countries surveyed, the public industrial sector contributed little to dynamic industrial growth, tended to become a drain on the public finance, required a net inflow of resources to cover its capital requirements and discouraged the growth of private industry.

It may well be protested that this conclusion is too negative and that the sources of sub-standard economic performance surveyed point clearly to ways of strengthening performance. Project planning should be improved; PEs should be instructed to keep their labour forces down to commercially justifiable numbers; under-capitalised concerns should be provided with sufficient funds to permit efficient operation; training facilities, salary levels and hiring policies should be changed so as to permit the recruitment on merit of adequate numbers of experienced managers, technicians and skilled workers; corruption should be severely punished; ministers should provide clear policy guidance but desist from detailed intervention in everyday operations. The 1981 World Bank report cited



earlier makes a number of useful suggestions along these lines, including reference to the system of PE contracts developed recently in Senegal. However, such lists of reforms can be considered naive. Among other things, it disregards the multiplicity of motives which lead governments to set up PEs in the first place, and the large de facto weight which they frequently give to non-economic goals.

On the principle that PE performance should be assessed according to the objectives they were intended to promote, it is incorrect simply to assess them in terms of their contribution to industrialisation (or economic development generally), which is why our conclusion is so negative. Indeed, it is wrong to confine the evaluation of performance simply to economic criteria, in the way that has been done above. Very frequently there is a trade-off between economic and socio-political objectives, which makes unreasonable the common government practice of judging PE performance by a simple profitability test. The point has been well expressed in an official report on Ghana's state gold mines:

The basic cause of the present weaknesses of the Corporation is political in nature. Since it was formed in 1961, no Government has provided the Corporation with the conditions necessary for its success. One reason for this is that Governments have tried to pursue contradictory objectives. Governments have tended to speak with two voices about the duties of the Corporation. With one voice they justify the necessity for the Corporation on social, non-commercial grounds... With the other voice, however, they talk of the Corporation in commercial terms, stressing the need to obtain profits and criticising the management for having to depend on budgetary subsidies.

A contrast has also been drawn between the generally poor economic performance of Ghana's PEs with its Volta River Authority. On its own terms, this Authority has been successful in achieving what it was intended to achieve, the reason for which being lack of ambiguity about its objectives and an absence of detailed interference with management.

If we take a multiplicity of government objectives (which, however, are rarely articulated with any clarity) to be a pervasive feature of state enterprise and if socio-political motives are often given primacy, then we must predict a continuation of poor economic performance. On this view, sub-standard economic performance (including an unsatisfactory contribution to the process of industrialisation) may be seen, in part at least, as the cost of achieving socio-political goals. In such situations, there is little more that the economic analyst can do than to quantify and draw attention to these costs and to ask ministers whether the costs are regarded as reasonable in relation to the benefits that may be derived.

On the need for more information

It is appropriate to stress again the weakness of the data base upon which this chapter has been prepared. A careful search of published sources served mainly to reveal that there was hardly any such information. Our four cases were 'chosen' simply on the basis that these were the only tropical African countries for which materials were available. Even so, it is by now apparent to the reader that much of the material on these four is badly out of date, incomplete, and unsystematic. Of course, much more information is available to individual governments than can be found in public libraries and the archives of UNIDO, the World Bank, etc.. Nevertheless, we strongly believe that the following judgement on Senegal applies with equal, probably greater, weight to many other African countries:

The present lack of data on the para-public sector also makes Government supervision extremely difficult. There is no organization with a data bank sufficient to assure continuous Government monitoring of those mixed enterprises supervised directly by the state. The information collected thus far by Government departments is incomplete and inadequate. The lack of data is less obvious in the case of public enterprises since the CEP regularly draws up statements of account for each one.

However, these statements are primarily accounting documents and only respond to the concerns of the Treasury and budgetary expenditures. Moreover, they do not provide the statistical information needed by managements to improve operations or by governments to judge performance.

Indeed, the evidence presented earlier on the accounting deficiencies of many PEs suggests that the Senegalese position may be a relatively favourable one.

Notwithstanding the conclusions stated previously we therefore suspect that this study is too weak for any confident generalizations to be drawn. Working from secondary sources on a small number of cases far from the countries to which they refer simply does not permit an adequate investigation. Before that is possible, far more primary, on-the-spot research is essential.

PART THREE: ORGANIZATIONAL STRUCTURE AND  
PERFORMANCE EVALUATION

This part deals with the more important microeconomic issues involved in the analysis of public industrial enterprises. Part three begins with Muzaffer Ahmad's description of different organisational forms and institutional structures and provides evidence on the nature of the relationship between the government and public industrial enterprises. The issue of the appropriateness of specific organizational forms is also discussed. In particular the question is posed: do different organizational objectives imply different control structures? Leroy Jones examines this question in some detail and suggests that a relationship does indeed exist and ought to be taken into account in developing appropriate performance evaluation criteria.

The question of performance evaluation of public industrial enterprises has received much attention since the development and popularisation of social cost benefit analysis in the middle 1960s. This approach is examined in detail in the contribution by Ansari, Jenkins, Lahouel and Fernandes. They also examine alternative methodologies for evaluating public industrial enterprises and suggest practical guidelines for ensuring greater efficiency within the public industrial sector. Part three ends with V. Krishnamurthy's detailed examination of the organizational development and the corporate policy of Bharat Heavy Electricals Ltd., (BHEL). BHEL has been an outstanding success story - in an area where success stories are relatively hard to come by. It is hoped that BHELs experience might provide useful guidelines for public sector management in other developing countries.

CHAPTER V. ORGANIZATIONAL FRAMEWORK, INSTITUTIONAL RELATIONSHIPS  
AND MANAGEMENT OF PUBLIC INDUSTRIAL ENTERPRISES

by

MUZAFFER AHMAD\*

Public sector industrial enterprises (PSIEs) show a variety of forms of organization. The purpose of this chapter is to look into the organizational framework of PSIE. In doing this we shall begin with the concept of organization itself.

A. CONCEPT OF ORGANIZATION

The reality of an enterprise, be it public or private, is a set of complex relationships within and outside the unit. The relationships are of functional as well as personal nature. These interrelationships have a purpose of accomplishing goals and objectives institutionally as well as individually. A polity, society, community or a group of individuals sets up an organization because in their judgement certain collective goals, given the prevalent legal and institutional alternatives, are better attained through the collaborative unit called organization.<sup>1/</sup> But for the group to remain together or to sustain the organization and for individuals to work and perform in the organization it is necessary to ensure continued satisfaction at a reasonable/acceptable level (better than the alternative available) of individual goals/needs.<sup>2/</sup> The PSIE (a subset of Public Enterprise) are established on the basis of the decision by a polity primarily because the polity believes that the PSIE is the most efficient form

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1/ M. Weber, Theory of Social and Economic Organization, Free Press, New York, 1947.

2/ C.I. Barnard, Organization and Management, Harvard University Press, Cambridge, 1948.

for achieving certain objectives. In order to achieve those institutional goals visualized by the polity, it is necessary to ensure satisfaction of goals of the operatives (those who work in and for PSIE) and the members of the bureaucracy (who are instrumental in its setting up) and also the members of society in whose name they are set up. Thus PSIE has to satisfy multiple institutional and individual objectives of at least three sets of persons. These goals may indeed be contradictory as well as interdependent. In other words, the function and management even of a simple PSIE is more complicated than is usually thought of.

#### B. LAW AND ORGANIZATIONAL STRUCTURE

##### Types of public sector industrial enterprises

Public sector undertakings seem to present a variety of forms<sup>1/</sup>

For PSIE the following seem to be the relevant ones:

- (a) Departmental undertakings
- (b) Statutory corporation
- and (c) Limited companies<sup>2/</sup>
- (i) A departmental undertaking<sup>3/</sup> is not a legal entity; it is not established by or with the consent of the legislative authority in the country. It is set up by an executive action of a government body without any capital structure. A departmental undertaking

1/ United Nations: Some Problems in the Organization and Administration of Public Enterprises in the Industrial Field, 1954

2/ Other forms of Organizations e.g. quasi corporation (e.g. Railway Board), Control Board (e.g. irrigation control Board) Commodity Board (e.g. Tea Board), Regulatory Commissions (Village Industries Commission), Trusts (Port Trusts), Authorities (Inland Water Transport Authorities), do not have relevance for PSIE

3/ A.S.H.K. Sadique: Coordination and Control of Public Enterprises: an over-view of the Asian situation, ACDA, Kuala Lumpur, 1976, N.S.  
Carry Jones: The Impact of Planning and Public Enterprises on Public Administration and Measures for Administrative Reforms in UN: Inter-regional seminar on major administrative reforms in developing countries Vol III (Part two), 1973

is charged with the duty of carrying out restricted specified functions, generally precisely defined, falling within the perview of the governmental body that sets it up. Such an undertaking is subject to a high degree of executive control and juristically it is not an independent entity. It has no separate budget; its budget is integrated into the general budget which authorizes its expenditures and its revenues form an integral part of the earnings by the government. It is subject to budgetary, audit and other controls of the government. Such an enterprise follows all the governmental rules and regulations and is managed by civil servants. Thus it is merely an extension of the governmental arm. This has been the oldest form of public sector industrial undertaking. It has been praised for direct control and despised for its inflexibility which hinders operation on a commercial basis. Even today, where profit is not the major concern and in areas where externalities are significant, there seem to be a latent preference for departmental undertakings by the bureaucracy/politicians in power.

(ii) The Statutory corporations require specific action by the law making authority of the country, though it is conceivable that a general law of public corporation may be enacted in order to enable the government to establish a corporation as and when necessary. For example, in Sri Lanka most industrial corporations have been created by compliance with the provisions laid down by a special public act<sup>1/</sup>. Unlike departmental undertakings, these corporations are defined legal entities separate from the government and also the persons who conduct their affairs, but like the departmental undertakings they are set up for specific purposes. The statute defines the purpose, powers, form of management as well as relationship with the government. They are not subject to the budget,

<sup>1/</sup> A.R.B. Amerasinghe: Public Corporations in Sri Lanka in International Legal Centre: Law and Public Enterprise in Asia, Prager, 1976

accounting and audit procedures of a government department, though the government may retain the right of approval (e.g. Bangladesh)<sup>1/</sup> or review of the budget; the government invariably desires independent audit (even selective government audit as in the case of Bangladesh)<sup>2/</sup> and government may direct/induce adoption of specific accounting procedures (e.g. standard costing in case of jute, textile and sugar industries in Bangladesh)<sup>3/</sup>. The statutory corporations are not subject to regulatory or even prohibitory provisions applicable to the expenditure of public funds, though government may issue directives for compliance in certain matters<sup>4/</sup>. The statutory corporations is normally financed from an initial loan or grant made by the government and later from the contributions by the enterprises (if it is a holding corporation) or from operating revenues (if it is an operating corporation). It is administered by a board appointed by the government. This form is designed to allow flexibility in operation and ensure appropriate accountability through various measures including ministerial control. The powers given to the ministers may be extensive. The statutory corporations are expected to be free from red tape, treasury control and direct political dictation. They are expected to ensure a happy blending of business operational efficiency and public interest. As the areas of operations do have important externalities, these are supposed to uphold national interest over narrow enterprise interest. For public corporation, the legacy of the Morrisonian concept is still alive. The purpose built corporate bodies are to provide service (as externalities are important) and play an increasingly important role in harmony with governments' plans and also

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1/ R. Sobhan and M. Ahmad: Public Enterprise in an Intermediate Regime, BIDS Dacca 1980.

2/ Sobhan and Ahmad (29).

3/ Personal knowledge of the author.

4/ Government of Bangladesh has indeed fixed salary scales and emolument for all public sector corporations.



initiate changes in policy when it is found desirable. These corporations are extended arms of the governmental system (as distinct from being the extended arm of the executive branch of the government) and this becomes all the more important in the context of development in the developing countries.

(iii) The third type of public sector industrial enterprise is the long familiar limited company form. The setting up of such companies does not require the consent of the law making authority. These can be set up, upon executive decision, through compliance of requirements under company law. The distinctive feature of such a government company is that the entire equity capital is put up by the government, except when it sets up a mixed enterprise. Such a company is wholly autonomous and makes its own rules and decisions in respect of investment finance, personnel and commercial audit. There is more entrepreneurial freedom and these companies are designed to operate with the norms of private business. The externalities from such an operation is expected to be nothing more significant than those from normal business operation as such they are said to require not much policy direction or executive control. There is however one significant element in that the government appoints its board and retains the right of removal. Thus this form has been used to evade control of the legislative but less so, of the government.

#### Comparison of the three forms

A comparison of the three forms of public sector enterprises is given in table I.

Table 1: A comparison of the three forms of PSIE

Departmental undertaking	Statutory corporations	Government companies
No law required to establish, executive action	New specific law enacted	Established under existing company law
No equity or loan placed at its disposal.	No equity capital, government provides loan or grant.	Equity is placed as per specified capital structure.
Regular budgetary appropriation made and integrated in governmental budget.	No Budgetary appropriation except for grant or subsidy, is made available	No Budgetary appropriation is made
Government rules, regulations apply mutatis mutandis	Rules and Regulation may need approval or follow given guidelines	Company formulates its own rules and regulations within the limits of prevailing laws.
Follows civil service tradition and grafts Bureaucratic Management	Supposed to follow professional management within a mixed civil service - cum - business tradition	Follows business tradition and encourages professional management
No Board for management - directly under the control of a government department.	Wholly appointed Government Board, theoretically to operate independently of bureaucracy but in practice the position is often compromised	Shareholders Board, if government is 100% shareholder, it may have wholly appointed Board - theoretically, not under the direct control of a government department.
Subject to government audit	Subject to government audit/government appointed commercial audit	Subject to commercial audit
Purpose to establish it is not commercial (i.e. strategic)	Purpose varies from being largely commercial to largely non-commercial	Purpose to establish it is to perform a function which is commercial in nature
The operation is intended to be interventional and thus have large externalities.	The operation is intended to have externalities	The operation is not intended to have such externalities; this is entrepreneurial intervention.
Subject to bureaucratic pressure and political patronage	can be subject to both bureaucratic pressure as well as political patronage.	Supposed to be immune from political patronage and bureaucratic pressure in its operation
This is an internal component of the executive arm of the government and a product of executive policy	This is expected not to be a sub-system of the executive arm of the government but its operational overlap make it a sub-system of the government	Generally not to be regarded as a subsystem of government's executive arm, though it is a product of government's policy.
Parliamentary review is routine	Parliamentary review is obligatory	Parliamentary review is exceptional

Generally, it seems that the organizational forms are products of historical antecedent or of prevailing political/bureaucratic opinion. This has made it difficult to demarcate the determinants of forms of public sector undertakings. But it seems that the a priori factors that should influence the choice of the forms are as follows:

- (a) Purpose, function of the enterprise
- (b) externalities of its operation
- (c) significance to the national economy
- (d) need for operational flexibility and
- (e) planned financial dependence on treasury.

If the function of the enterprise is commercial in nature with few externalities and little financial dependence, the enterprise should not be a departmental undertaking. Conversely, if the enterprise has significant externalities and pursue non-commercial goals with financial support from the treasury, it should be organized as a government company. In between there is certainly the grey area, where public corporations seem to have flourished but in case of public sector industrial enterprises, such corporations tend to acquire the qualities of wholly government owned companies, provided they operate at a profit.

#### Experience of some developing countries

For the public sector as a whole, there seem to be little consistency in respect of the choice of organizational form. But generally many countries tend to regard public corporations as the most suitable form for public utilities and the government company as the preferred form for manufacturing enterprises.

In India,<sup>1/</sup> the Industrial Policy Resolution of 1948 did envisage corporations through which medium public enterprises would be managed. But as the government became involved in mining and manufacturing, this led to the establishment of a large number of enterprises and the adoption of the joint-stock company form. India has 90 mining and manufacturing enterprises in the public sector and of these 84 are organized as joint-stock companies.

All PSIE in Pakistan are organized in company forms. This is a historical legacy. Pakistan, from its very inception was committed to a strong private sector and public sector ventures were to be promotive and supportive in nature. The Pakistan Industrial Development Corporation (PIDC) was organized as a statutory corporation with a purpose to develop industries and disinvest them when profitable. Because of this, each industrial unit was developed as a project at the time of implementation if this was solely financed by the government and it was later converted into a company and in case of joint ventures with private sector, they were instituted as a joint stock company ab initio. Thus PIDC became a holding corporation for operating companies. The same principle was followed when in the early 1970s Pakistan took over many industrial units and placed them under holding corporations. In the manufacturing and mining sector, Pakistan has 11 holding corporations (including one Board) which have 89 companies under them<sup>2/</sup>. Thus in Pakistan, the preference for joint-stock company seems to be quite explicit.

Malaysia seems to have a preference for statutory corporations as the activities are considered promotional in nature. From 1970 onwards

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1/ Government of India: Public Enterprise Survey, 1978-79

2/ Reza H. Syed: Role and Performance of Public Enterprises in the Economic Growth of Pakistan, IACP, 1979.

government companies seem to be gaining grounds slowly. In 1974, there were 59 public enterprises in the form of public corporations, 10 as wholly owned companies and 13 as partly owned companies. Of these only five were undertaking manufacturing activities. They have a number of subsidiaries and joint ventures in the form of companies<sup>1/</sup>. Thus, for the manufacturing sector, there is a preference for the company form of organization prompted by the desire to encourage private participation by Bhumiputras.

In the Rep. of Korea, the dominant form of public enterprise in manufacturing seems to be a joint-stock company under a holding company. The Korea General Chemical Company, a holding company has eight joint venture companies under its jurisdiction. The Agricultural and Fisheries Development Corporation had 23 subsidiaries and had disinvested most of them by 1974. The Korea Development Bank also holds a controlling share in certain industrial enterprises. Besides there are joint-stock companies promoted directly by the government<sup>2/</sup>.

In Indonesia, since 1969, public enterprises have been regrouped into Perjan (departmental agency), Persero (limited companies) and Perum (Public corporations)<sup>3/</sup>. Perjans are few in number and generally provide public services or commodities that the government as a matter of policy considers vital for public welfare and provision of these services necessitate the use of protective measures and/or government subsidies. These perjans operate as government institutions are considered as administrative department of the government.

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<sup>1/</sup> Raja Mohammed Affandi bin Raja Halim: Coordination of Public Enterprises: Country study for Malaysia, ACDA, Sept. 1975.

<sup>2/</sup> Sooh Yu: Coordination of Public Enterprises: country study for Korea, ACDA Sept. 1975.

<sup>3/</sup> Rudhi Prasetya and Neil Hamilton: The Regulation of Indonesian State Enterprises in International Legal Centre: Law and Public Enterprise in Asia, Prager 1976.

Perseros are limited companies which are wholly or partly owned by the government. The organization and management structure of a Persero closely approximates those of ordinary, public limited companies. They operate as profit-making units under normal circumstances. Perums are public corporations with limited profit making potential and a large number of them provide services and utilities. In June 1973, there existed 36 perums, 98 perseros and a few perjans. Thus, under the present government there is a clear preference for the limited company organization form.

Bangladesh also manifests the existence of these three basic types of public enterprises e.g. departmental undertakings which operate directly under a ministry and are creatures of executive decision; wholly owned public corporations with seed capital provided by the government but autonomous in respect of their budget, asset ownership, modes of operations, procurement of fund within the broad rules and directives of the government; and public limited companies operating under the company law. But for all practical purposes, the industrial units registered under company law prior to 1971 and formally under the sector corporations do not follow the management and organization of a company in spirit as the government has suspended certain provisions of the company law in respect of the units under public corporations. Thus they manifest the characteristics of projects/undertakings of a wholly owned public sector industrial corporation not significantly different from departmental undertakings except with respect to the status of office of top management and scale of operation of the units.

In Yugoslavia <sup>1/</sup> the system of social ownership with self management is distinctively different from other forms of public ownership offering an alternative to both state ownership and private ownership. The evolution of the self-management system in Yugoslavia started with a law passed in 1950 on management of state enterprises and higher economic associations by workers' collectives. The predominant considerations for its introduction were political rather than economic. It was the beginning of a socialist system encompassing social ownership of the means of production, workers' self management and market implementation of social plans as opposed to the prevailing system of state ownership of the means of production and centralized administrative planning and management of the economy. Its main intention is to give the working people the right to decide for themselves about the conditions and results of their work and to try to avoid the dangers of alienation and bureaucratization of the social and economic institutions. Self management is related to the idea that at a certain stage of socialist development many of the functions of the state can be taken over by associated producers themselves. The emphasis is on building decisions from below so that the broadest possible direct participation in a democratic process would be assured with a strong preference for consensus as a basis for social decisions.

In order to assure the broadest involvement in the decision-making, all important decisions are to be referred to the basic organizations of associated labour (BOAL). These are small economic self-managing units which usually encompass a self-contained technologically identifiable production process so that their products can be marketed. An enter-

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1/ The Role Assigned to Public Industrial Enterprises in Different Development Strategies, by Pavle Sicherl, Conference Room Paper No.2 for the UNIDO expert group meeting on the Changing Role and Function of the Public Industrial Sector in Development, pages 23 to 27.

prise usually consists of more BOALs. To intensify the control of workers over the whole production process the income is obligatory registered as income of a BOAL. The workers in BOALs decide about the allocation of the whole income and manage it in accordance with their responsibility to other workers and the society as a whole. Together with this right their responsibility for efficient management of resources and for allocation of income consistent with social interest is stressed.

It is obvious that workers in BOALs and associated enterprises enjoy a considerable degree of autonomy and assume direct responsibility both for the success and conduct of their enterprise and relations with other workers and organizations in the system of associated labour. Public accountability is to be assured through supervision by workers and other employees and by social control at all levels.

#### Some observations on legal forms of organization

Certain general observations might be in order.

First, departmental undertakings are the result of the executive impulse to respond to particular situations which require more than the "normal" governmental efforts.

Second, as the departmental undertakings gain acceptance, they find a responsive base for expansion particularly in the areas of the strategic, infrastructural or welfare operations of the government.

Third, shift away from departmental undertakings seem to be sparked by the government's closer involvement in economic development. The underdeveloped nature of the economy necessitates governmental direct intervention and often prompts to emphasize the promotive and supportive activities which can be readily undertaken by public corporations.

Fourth, public corporations expand as a consequence of the government's commitment to regulate and direct the commercial life



of the country. This happens more in cases where the local business community is slow in its emergence and/or where the government is committed to some form of socialistic pattern of society.

Fifth, the growth of public limited companies and shift away from public corporation parallels the growth of private sector enterprise encouraged by aid intervention. There is also likely to be a shift away from public corporation in mature developing economies where unit-autonomy becomes necessary for operational efficiency.

Sixth, in the early stages of governmental involvement, the company tends to predominate in situations where the public sector is largely composed of nationalized, taken over, abandoned or sick private sector units.

Seventh, departmental undertakings are popular with bureaucrats, public corporations with politicians and public limited companies with the managerial executives. The possibility of secondment of civil service personnel to corporations make that form acceptable to both bureaucrats and politicians while the practice of putting companies under a holding corporation make the corporate form acceptable to both bureaucrats and managers.

Eighth, though autonomy has been made the sine qua non for public corporations, in practice this autonomy may indeed erode very fast for control and circumstantial reasons. Hence, it is efficiency, which in the last analysis ensures autonomy, and efficiency should be the criterion for selection of the form of organization.

Ninth, there is a need for the formulation of a general public corporation law. Further, the company law codified for the private sector possibly requires certain amendments to suit the public sector enterprises.

C. INTEPLINKAGE OF ORGANIZATIONAL FORMS,  
INSTITUTIONAL SYSTEMS AND MANAGEMENT

The first impact of the differential organizational form of public enterprises is on the constitution and the structure of management. A departmental enterprise does not have a Board. It is directly under the Ministry. It is managed by an executive who is in the service of the government. On the other hand, a government company or a statutory corporation has a Board of Directors. In the case of the company, it is managed by a whole time chief executive and supervising him, a policy board of part-timers; the chief executive normally is, but does not have to be, a member of the board. The corporations have varied experience. At the one extreme, it has a functional board with the chief-executive (Chairman) and functional heads as members of the board. At the other extreme, it may also have a policy board with an outsider chairman (Minister or Secretary) and majority outsider part-time directors (mostly if not wholly from the civil service) with the chief executive and some functional heads represented on the board. In between, it could be a board with chief executive and functional heads forming the majority with a minority of part-time outside directors from controlling or related ministries and/or interest groups (i.e. employees, consumers, political party etc.).

These different forms of management need to be viewed along with the background of the chief executive and functional director(s) on the board. If the chief executive and the directors are on secondment or on post retirement placement from the civil service, the difference between a departmental enterprise and a company or a corporation is a formal not a substantive one. Only in the absence of the dominance of the civil service do the functional forms have the capability of

differential impact. This indeed would be our recurrent theme as we explore the differential impact of organizational forms on institutional system and management style in public enterprises.

Guyana has entirely non-functional policy boards for public corporations. Here the chief executives of the enterprises were not the members of the Board. In Venezuela, the boards are composed of non-functional directors except for the full-time President. In Mexico, the boards mostly contain non-functional directors with the Minister or a civil servant as the chairman and most of the members of the board also being civil servants. The majority of public industrial enterprises in India have non-functional Policy boards which include the full-time Managing Director/Chairman. There are a few enterprises in India whose boards are composed entirely of civil servants; but it is common to have a majority of board members from the Government.<sup>1/</sup> In Pakistan, after 1971 Policy boards of many PSIEs had part-time Chairmen and civil servants; the Industrial Development Corporation had a functional board with full time Chairman and Directors. There were however civil service secondments on this board as well. In Bangladesh the practice of functional board in industrial corporations was adopted. There were few civil service secondments. In the United Kingdom there is the policy board with strong full-time representation of the enterprise on the board; the United Kingdom also avoids appointing civil servants to the board of public enterprises. The overall picture does not permit generalization however.

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<sup>1/</sup> UN: Organisation, Management and Supervision of Public Enterprises in Developing Countries, New York, 1974.

Authority, hierarchy and leadership

Authority is a function of formal organisation. Authority implies right to make decisions and enforce them. The exercise of authority involves institutional (not personal) relationships as authority relationship is one of superordination and subordination of roles. Authority is often confused with competence, a personal quality or ability which can help to exert influence and also with leadership which is also a personal quality which helps establish dominance and submission in interpersonal relationships. Competence (i.e. ability) and leadership help exercise of authority. The function of authority is to standardise norms, standardise roles into status and these norms and status together constitute the organisational hierarchy. This is needed to support, sanction and sustain authority itself. However, it is to be noted that power, often confused with authority, need not have legitimacy, but that authority, legitimised by the system, can wield power. A good system is one that is based on the consent of the constituents; as authority, even though legitimate to be effective, needs acceptance and therefore contemporary behaviourist thought puts emphasis upon motivation, persuasion, participation, information, approval and confidence for enhancing the effectiveness of authority.<sup>1/</sup>

The management subsystem and the authority structure in an organisation are interactively related to ensure role performance for achieving organisational goals. Both are rooted in the division of labour with a continuity of function, specified sphere of competence and sequential as well as interdependent relationships. The Management

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<sup>1/</sup> H.A. Simon: Authority in C.M. Arsenberg et al (ed): Research in Industrial Human Relation; Harper and Brothers, NY, 1957.

subsystem within the authority structure ensures performance of task, introduces changes due to internal and external stimuli and provides supervision of organisationally required acts.<sup>1/</sup>

The authority structure becomes hierarchical when in order to reduce interpersonal transactional costs it is possible to devise tasks that require minimal creativity and also to group similar and related jobs and when environmental demands on the organisation for change and adaptation are unimportant.

Leadership is certainly an attribute of personality. In the context of an organisation and, thinking behaviourally, it can be defined as an act of incremental influence over and above mechanical compliance in matters relevant to the organisational task. The leadership is important because no organisational design can prescribe for every possible contingency, because the organisations, as open system, need adjustments to changing environmental conditions, and because organisational stability needs to be actively maintained. It needs to be realised that leadership has distinctive functions which are performed at various levels of the organisational hierarchy. At the lowest level it concerns routine use of prescribed norms with consistency and appropriateness for organisational effectiveness. At the middle level, leadership performs interpolation functions involving development of ways and means for implementing existing policies to temper the organisational requirements to the needs of the situation in order to enhance organisational effectiveness. Finally, at the top level, the leadership is involved in policy origination for "dynamic adaptation of the total organisation to

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<sup>1/</sup> Katz and Kahn: The Social Psychology of Organisation, Wiley, 1966.

its own internal strivings and to its external pressures."<sup>1/</sup>

There are not many case studies of the various types of organisational form in public sector industrial enterprises and their authority-hierarchy-leadership structures. But many impressionistic observations in this respect are available, particularly from enterprise studies.<sup>2/</sup> This is further supplemented by interviews conducted by the author in 1979-81 with various levels of functionaries in the different types of public sector industrial enterprises in Bangladesh. It is difficult to claim any generality but the results are presented below in tabular form for what they are worth (Table 2).

#### Delegation, departmentation and internal co-ordination

Delegation of responsibility, based upon systematic sharing of executive authority-cum-accountability represents the fusion of management structure with management action. Delegation to be effective, needs to be clear, stable, continuous in terms of responsibilities and relationships which is made possible by policy directives, timely flow of management information and appropriate provision for co-ordination and communication. The success of delegation depends on competence, reliability and outlook of the subordinate executives as much as it does on the superior executives' ability to direct his confidence in his subordinates and his willingness to take chances and give credit.

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<sup>1/</sup> P. Selznick: Leadership in Administration, Row, Peterson, Evanston, 1957, p. 103.

<sup>2/</sup> IDRC financed and co-ordinated Public Enterprise studies generated sixty specific studies of enterprises of different organisational nature. Ref: A.T. Rafiqur Rahman: Organization, Management and Review of Public Enterprise Research Network in Asia.

Table 2: Authority, Hierarchy, and Leadership in differing organisational types in Public Sector Industrial Enterprises

Departmental Organisation	Statutory Corporation	Government owned Company
1. Size is small in terms of investment and number of employees	Size is large, often very large in terms of investment and/or employees	Size medium in terms of investment and number of employees
2. Direct link with Ministry transplants bureaucracy	Generally bureaucratic in nature	Much less bureaucratic
3. Authority structure formal and static	Authority structure formal and generally static	Authority structure, except for the top, less formal and less static
4. Status consciousness high throughout the organisation	Status consciousness is present, between positions of same level low but between position of different levels high	Status consciousness as perceived by lower levels about top level high: below mid-top level minimal
5. Authority based on role-status	Seconded personnel in authority exercise it on the basis of role-status, people on contract on the basis of competence and for others it seem to vary	Authority is based on role-status and competence
6. Acceptance of authority very high	Acceptance of authority seem to vary widely	Acceptance of authority high
7. Consent of constituents absent	Consent of constituent in exercise of authority feeble but growing overtime, particularly in matters affecting personnel motivation and reward	Consent of constituents in exercise of authority generally absent
8. No formal organogram but operates on the basis of sanctioned posts	A formal organogram is there, is elaborate, not much change overtime	An informal organisational structure is there and there seem to be a generous flexibility in the middle within departments
Organisational structure tends to be pyramidal with increase in size	Generally pyramidal	Seems to have a flattened middle
10. Even top management generally provide mechanical compliance, exceptionally taking initiative	Top Management tend to provide incremental influence but may be forced to accept more of general compliance	Top management has generally provided incremental influence, but there are exceptions
11. Has not demonstrated much of an adjustment to changing environment except for awareness of significant changes in the environment	Has adjusted well to internal dynamics of organisational sub-systems, moderately to environmental influence on individuals in the organisation	Has adjusted well to changing circumstances except for major environmental change
12. Use of prescribed rules with consistency and appropriateness is significantly high	Use of prescribed norms with consistency is reasonable	Use of prescribed norms with consistency is variable
13. Matching organisational requirements to the needs of persons/situation is minimal	Matching organisational requirement to needs of persons and to needs of situation better than Departmental Organisations	Matching organisational requirements to needs of persons is minimal, but to needs of situation is high
14. Dynamic adaptation of organisation is conceptionally absent	Dynamic adaptation of organisation is not significant	Dynamic adaptation of organization is higher, still not significant

Delegation presupposes departmentation and/or divisionalisation of the organisation in terms of function, purpose, process, product, clientele, location or attributes of this nature. Departmentation provides a horizontal structure of management generally based on functions. Delegation also requires institution of a supervisory system which is institutionalised through a chain of command and span of authority. The management structure indicates the span of supervision over the levels immediately below. The vertical structure which connects these centres of supervision in the chain of command which is also called the line of communication.

Co-ordination in any organisation is facilitated by:

- a) clear formulation of policy with implication for different departments communicated to appropriate levels for desired management action;
- b) properly defined responsibilities, particularly in respect of interrelationships of departments;
- c) co-operative attitude of involved management personnel;
- d) well-designed procedures for co-ordination actions; and
- e) timely circulation of required information.

Based on a similar set of case studies mentioned in the previous section, the comparative position between the three forms emerges as as indicated in Table 3.

#### Communication, information and decision flows

In modern management communication is often labelled as the very essence of the organisational system as it provides the mechanism for information flow and transmission of decisions. Full and free information flow helps identification of problems as well as their solution.



Table 3: Delegation, departmentation and internal co-ordination in the three forms of Public Sector Industrial Enterprises

Departmental Enterprise	Statutory Corporations	Government Company
There is delegation of work but minimal delegation of authority	Delegation of work and in theory formal delegation of authority	Delegation of work and some delegation of authority with increment in size
There is clear understanding of work responsibility which seem to be stable between positions and continuous overtime	Clearer work responsibility, often rigid and thus continuous	There is a clear understanding of core work responsibility but total responsibility found variable at the middle and the pattern of responsibility not necessary continuous
No written policy directive except for discrete changes; Policy considered stable	Both written and verbal directives and considered less stable	Generally no written policy directives
No centrally designed system for delegation and operation, but the system operating is functionally understood	A top-down system is operative but clarity, at times, is lacking	No centrally designed system as such but a top-down perceived system is operating
No Information System	Some form of Information System, often imperfect, is there	No Information System but flow of limited information ensured
Superiors ability to direct vary	Superiors ability in professional/technical area good but in other areas vary	Superiors ability to direct considered good
Subordinates competence often questioned	Subordinates competence vary widely	Subordinates generally considered OK
No formal departmentation	Generally a formal departmentation, sometimes not well designed	Some practised departmentation
Span of supervision is wide at the top	Span of supervision seem to be generally systematic - wider at bottom and narrower at top	Span of supervision, wide at the top for small companies; wide at the middle for larger companies
Autocratic coordination is coordination by command	Problems of co-ordination greater; often competitive departments disagree; coordination through meetings and committees	Co-ordination through function and in case of problem through persuasion and lastly command

The direction of the communication is downward along the hierarchy, horizontal among peers or upward along the ascending order of control. The downward communication basically relates to specific job directives, information for understanding of the task in relation to organisational objectives and functions, information about organisational procedures and practices, feedback on job done and indoctrination of goals. Lateral communication facilitates co-ordination, creation of a sense of organisational unity and furnishes support for specific jobs. The upward communication is concerned with the subordinates performance and/or problems, problems created for/by others, problems in application/interpretation of organisational practices and policies and what needs to be done as well as how it can be done.<sup>1/</sup>

The value of a communication depends on correct perception by the recipient. To be effective, the communicatee needs to have appropriate expectation and the communicator the appropriate knowledge of the expectation. In other words they need to be on the same wave length. Any communication would prompt appropriate action if it fits in with the values, norms, purposes, and aspirations of the recipient. Communication is dependent on information which is specific, and impersonal and thus needs to be differentiated from perception. There is a distinct view that downward communication cannot work because it centres on what the top level management wants to say and thus it always degenerates to command.<sup>2/</sup>

Modern organisations have stressed the need for collecting, analysing, preserving information relevant for organisational

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<sup>1/</sup> Katz and R.L. Kahn: The Social Psychology of Organisation, Wiley, NY, 1966.

<sup>2/</sup> Peter Drucker: Management: Tasks, Responsibilities and Practices, Pan Books, 1979.

effectiveness. The effectiveness of the information system depends on the extent of relevant organisational activity covered by it, whether the nature of the system is merely repetitive or subject to modification, whether the system allows for a feed back and the extent of speed and accuracy that the system permits. The flow of such information is in general upward, and at times lateral.

Communication and information flow is intended to help generate a counter flow of decisions. There are various phases of the decision-making process. The first is the identification of a problem. In the curative type the problem identifies itself. In the preventive type there is a need for intelligence activity, i.e. "searching the environment for conditions calling for decision".<sup>1/</sup> The second phase involves analysis of the problem i.e. a study of basic dimensions of the problem in depth including the organisational context; inventing, developing and analysing possible courses and consequences of action and finally, selecting and implementing the chosen solution.

All problems do not have the same character, and they therefore, do not require the same rigour for decision making. Some problems are routine, specific known and expected. For them programmed decisions are feasible. There can be a definitive procedure worked out for them as a detailed prescription would govern the sequence of responses to this problem. On the other hand problems could be novel, strategic, not fully known and somewhat unexpected. There would be a great demand for judgment, intuition and creativity in decision making. In reality there is a continuance of problems ranging from highly routined to highly unexpected and decisions are thus highly programmed

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<sup>1/</sup> H.A. Simon: The New Science of Management Decision; Harper and Row, 1960.

at one end and totally unprogrammed at the other. The routine information identifying an expected problem would evoke a programmed solution and procedural communication as decision for implementation. It is the information analysed and interpreted that help identification of non-routine problems which requires a non-programmed solution and cannot always be conveyed through procedural communication of decisions. In this case, the enterprise studies referred to earlier did not help. We had to use a very small sample for obtaining data including 2 sector corporations, 5 Government companies and 1 departmental enterprise in Bangladesh. (Table 4).

Personnel policy, motivation and participation in management

There are many things said about the distinctive differences between private and public enterprises. The differences crop up with the human factor in production - man and management. A UN study on public enterprises in developing economies identify, among other factors, the restrictions and obligations attendant upon personnel management rules as one of the major factors affecting adversely their performance.<sup>1/</sup> Another UN study identified the personnel problems that distinctively characterize public enterprises:<sup>2/</sup> these are recruitment and service conditions, managerial compensation, incentives for workers and managers, motivation and employee participation in management.

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1/ UN: Measures for improving performance of public enterprise in developing countries, NY 1973.

2/ UN: Organisation, Management and Supervision of Public Enterprises in Developing Countries, NY 1974.

Table 4: Communication, information and decision flows in three forms of organization

Departmental Enterprise	Statutory Corporation	Government Company
Communication is formal, almost invariably written in file	Communication mostly formal and in files, sometimes in memos	Communication generally formal in the form of written memos, though verbal type is prevalent
<b>Types of downward communication</b> Procedural - 55% Job-directed - 18% Evaluation of job done - 11% Personnel matter - 9% Others - 7%	<b>Type of downward communication</b> Procedural - 52% Job-directed - 23% Evaluation - 15% Personnel - 6% Others - 4%	<b>Types of downward communication</b> Procedural - 36% Job-directed - 38% Evaluation - 18% Personnel - 5% Others - 3%
<b>Types of Horizontal communication</b>  Insignificant	<b>Types of Horizontal communication</b> Information only - 8% For coordination - 71% For support - 21%	<b>Types of Horizontal communication</b> Information only - 20% For coordination - 50% For support - 35%
<b>Types of upward communication</b> Procedural - 76% Reports - 5% Own problems - 8% Other problems - 3% Suggestions - 1% Others - 7%	<b>Types of upward communication</b> Procedural - 61% Reports - 13% Own problems - 2% Other problems - 2% Suggestions - 2% Others - 20%	<b>Types of upward communication</b> Procedural - 56% Reports - 20% Own problems - 2.5% Other problems - 2.5% Suggestions - 2% Others - 17%
<b>Type of decision/mean numbers of hierarchy involved/mean time for decision</b> Routine - 3-4/12 working days Non-Routine - 8-9/39 working days Non-Routine (strategic) - 4-5/7 working days	<b>Types/no of level/mean time</b> Routine - 5-6/23 working days Non-Routine - 10-13/56 working days Non-Routine (strategic) - 6-8/6 working days	<b>Types/no of level/mean time</b> Routines - 3-4/10 working days Non-Routine - 8-11/27 working days Non-Routine (strategic) - 4-5/5 working days
* including extra-organisational hierarchy	*including extra-organisational hierarchy	*including extra-organisational hierarchy.

(i) Recruitment and service conditions

In an economy with a restricted private sector, there is an urge to subject personnel of public enterprises, to procedures and salary scales prevalent in the civil service system.

All available case studies<sup>1/</sup> show that department enterprises usually start with a nucleus of personnel drawn from government services. The same is generally true of statutory corporations though a few exceptions can be noted. Only in the case of Government companies, does it seem that there are at least as many cases of exception as there are of compliance to this norm.

The Government service people in departmental enterprises remain committed to maintaining the Governmental personnel service condition, structure including nomenclature and salary scales etc. as far as possible. In case of statutory corporation, this tendency is generally recognised. But there seem to be general acceptance that salary needs to be somewhat different to attract qualified people away from the private sector. This is however not true for the public sector dominant economies. The government owned public limited companies seem to have done even better, partly because of greater professional orientation of the top executives in these enterprises. The service rules, salary scales, and other personnel benefits seem to come closer to the established large operating companies in the private sector.

The departmental enterprises do not generally have personnel departments. Consequently, personnel functions - search, recruitment,

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<sup>1/</sup> IDRC case studies referred to earlier and interview conducted by the author.

orientation, training, placement observation, promotion, retraining, separation etc. - go entirely by default. This is also the case with sector corporations, in which personnel department was created late and also because it is not headed by people with appropriate expertise. Indian sector corporations seem to be placed in a relatively better position - primarily because of availability of large trained manpower, even though the public sector is at a disadvantage vis-a-vis private sector. The government companies have not done much better, partly because in many cases personnel rules are subject to government approval and also because top appointments are made with government consent.

The departmental enterprises have no freedom in matters of creation of posts, have no latitude in determining salary levels and scales, have no scope for recruitment from any source and at any level, cannot generally promote anybody on consideration of merit and have no power to retrench quickly or dismiss without elaborate process. The case studies of statutory corporations suggest that they have some freedom in creating junior level posts (provided this has been budgeted for earlier); have limited scope for determining salary levels (but scales need earlier concurrence); have scope for recruitment at all levels, (except the top, provided a vacancy exists and there exists no general embargo by the Government); and promotions seem to take merit as criterion but seniority predominates, but in matters of retrenchment and dismissals the procedures are complicated. The limited companies in the government sector seem to have greater latitude in operation in all these matters except those related to top management in the company.

(ii) Employee compensation

Available data on workers' compensation in public enterprises suggest that they are better than those paid on average in the indigenous private sector, but normally lower than the average paid by the multinationals. However, these averages may indeed be misleading because of the differential activity composition. The indigenous private sector has a large component of small industries while in addition, multinationals follow the work-and-productivity standard set in a different production milieu. Comparison of comparable job in similar industries suggest that total compensation over the life of a worker is somewhat better than those in the private sector, but not very much better while total compensation similarly computed are very much better with the multinationals.<sup>1/</sup> However, between the three forms of public enterprises within a country without adjustment for activity, a government company pays more in comparison with either statutory corporation or a departmental enterprise and between the latter two money wage differentials seem to be statistically insignificant.<sup>2/</sup>

However, compensation for managers seem to be generally lower for all public sector enterprises, much lower compared to multinationals. Within the public enterprise sector, the degree of differential is lowest for limited companies, and highest for the departmental enterprises. It may be of interest to note the findings of the United Kingdom National Board for Prices and Income in respect of top salaries in the

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<sup>1/</sup> Studies conducted on Wage and Salary Structure in Pakistan, 1960.

<sup>2/</sup> Internal Studies conducted for Minimum Wage Structure in Bangladesh: IWWC, 1979 (typescript).



private sector and nationalized industries. They are as follows:

(i) Except for lower levels, salaries prevailing in the nationalised industries are substantially lower than those in the private sector;

(ii) Retirement benefits, being tied to final salaries, are lower than those in the private sector;

(iii) Position for position, the differences in salaries in private and public sector, is not explained by differences in responsibilities, insofar as they are measurable; and

(iv) Benefits in kind and other fringe benefits are a small part of total remuneration in either sector and thus differential due to that does not matter.<sup>1/</sup>

A study on income of executives, divided into top, middle and junior, in 2 sector corporations, 5 government companies and 1 departmental enterprise in Bangladesh, reveals the following:<sup>2/</sup>

(a) At the junior level, the total compensation average of management employees in departmental undertakings and sector corporations are not statistically significant (10% level), while the difference between either of them and government company employees is statistically significant at 10% level.

(b) At the middle level, the total compensation average of government company employees remain higher at a statistically significant 10% level compared to the same in the other two forms of organisation; the salary average between the departmental undertaking and statutory corporation is significantly different at 15% level of

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<sup>1/</sup> U.K. National Board for Prices and Income: Top Salaries in the Private Sector and Nationalised Industries, Report 107 Cmd 3970, London, 1969.

<sup>2/</sup> Based on interview conducted by the author.

significance:

(c) At the top level, the total compensation average of government company managers remain higher at a statistically significant level of 5% compared to the same in the other two forms of organisation; the salary average between the departmental undertaking and statutory corporation is significantly different at 10% level of significance.

Compared to civil service, the salary in public sector corporations seem to vary from being similar (Bangladesh, Nigeria) to higher (Guyana, India). In cases of government companies, they also tend to show a similar pattern.

(iii)

Incentives

There seem to be a plethora of confusion created in matters of incentives for employees in public sector. In the private sector, extra payment (i.e. bonus) is paid on profit which the company makes through its production - marketing strategy. In the public sector, there may indeed be no profit in a particular plant because of long gestation period, low capacity utilisation due to demand and/or supply constraint, governmental policy to keep prices low for overall national benefit and so on.

The departmental undertakings seem to pay no bonus. The sector corporations seem to pay bonus only at the enterprise level or at times at the corporate level up to the level of middle management. The companies pay bonus to workers and lower level management. In some cases one bonus has become more or less mandatory. But there seem to be no comprehensive study of the impact of bonus on productivity in the public sector.

(iv)

Motivation

There are many different ways of motivating individuals. One is to create his stake in a job. In addition, one may create motivation for work through sanction - more pressure and scrutiny. Third, motivation may be created through recognition, approval or reward. Finally, motivation may be created through participation.

Bureaucratic management tends to opt for sanction and partly for reward. Democratic management invariably opts for participation and recognition. Motivation through monetary compensation seems to be the basic assumption in both the cases; however the level may vary because of the type of management.

On an a priori basis, it is easy to predict that a departmental undertaking would by definition adopt the conventional motivating approach i.e. tightening controls, strengthening sanctions, exerting pressure, exhortation and reshuffling personnel. Fear, disapproval, and non-recognition seem to be the basic criterion. Similarly, a government company in addition to appropriate scrutiny and sanction in cases of disapproval would tend to adopt reward for creditable work as the basic mechanism. Statutory corporations seem to adopt both approaches. Participation does not seem to be anybody's preference except in the countries where it has been politically instituted. In conventional terms appropriate work environment assisted by a forward looking personnel policy should provide for adequate motivation in a normal functioning economy.

D. CO-ORDINATION, CONTROL AND AUTONOMY

(i) Co-ordination

There certainly exists a great deal of confusion about co-ordination which in bureaucratic parlance seems to be a pseudonym for control. Since we shall be dealing with control separately, we shall deliberately ignore co-ordination through control and concentrate on co-ordination through discussion, persuasion and agreement. It should also be made clear that we intend to discuss inter unit co-ordination in the public sector. In the perfect free market economy, all required co-ordination is supposedly made through the market and since public enterprises are established, among other reasons, for market failure or limitation of market in achieving the desired goals, we need to recognise the need for extra-market mechanism for co-ordination.<sup>1/</sup>

The need for co-ordination, globally, is collective. If we assume that the public enterprise system has a purpose - social change, social welfare maintenance, etc. - it is unlikely that it could be achieved through fragmented, distrustful activity. But unfortunately public enterprise system has not been able to establish this group culture effectively in any mixed economies because the enterprises have a fragmented view of the system.

Sectorally, the most potent reason for co-ordination is linkages. This is most visible in centrally planned economies. In a mixed economy the advocacy is for market, open tender and lowest price.

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<sup>1/</sup> Muzaffer Ahmad: Political Economy of Public Enterprise in E. Mason and L.P. Jones (Ed): Public Enterprise in the Mixed Economy LDCs, Harvard University Press (forthcoming).

If the concentrated units would co-operate about standardisation, product planning, output supply and agreed supply, they could both benefit from such an approach. Needless to say at the time of investment, such units are usually considered to be complementary. But incomplete co-ordination procedures keep the actual complementarity at a very low level. There is no law against such public enterprises getting together, but there are pressure groups which make such an approach almost impossible.

There is a great need for co-ordination in certain policy matters, notably personnel policy. The general principles of personnel recruitment, development, reward, and retirement, etc. need to be co-ordinated to reflect the basic approach of the public sector. This is often effectuated through control and directives but it could be better achieved through consultation and knowledge of each other's specificities. Otherwise, in the case of short supply of qualified people, there appears to be a continuous redistribution of limited stock through competitive bidding and an inappropriate climbing of the hierarchical ladder without ensuring maturity or efficiency.

Further, in the interest of proper utilisation of resources, e.g. capital, there is a case for closer co-ordination amongst complementary as well as competitive enterprises particularly in the public sector.

Finally, the minimal co-ordination amongst public enterprises should involve the establishment of an information pool. This would create a basis for exchange of views and climate for group identity as is done by the Chamber of Commerce and Industries in the private sector. Except for the Indian example of the Standing Conference of Public Enterprises (SCOPE), there does not seem to be any attempt in this direction and for that matter, SCOPE's impact has not been evaluated either.

A Survey of Asian and African countries convinces us that there has been no systematic inter-enterprise co-ordination in the public sector except through the control mechanism of the government.

(ii) Control

Appointment of top management

Government control over public enterprises seem to be extensive. The most notable is the owner's prerogative to appoint the top management - be it the chief executive or members of the board. In the case of departmental undertakings, this is automatic. In the case of wholly owned statutory corporation or limited company, this is done by the controlling Ministry with the necessary political consent. This is also the case with the mixed enterprises. Appointment of a chief executive of a unit under a holding company/corporation may not always need the consent of the administrative ministry unless it is so provided, particularly in the case of politically sensitive or strategically important units. Merely the power to appoint a chief executive does not provide control over him, it is the power to remove or renew his term of appointment that provides the true leverage for the controlling authority. Further, through this process government may put ex-officio civil service directors on a board, send someone on secondment, with attendant problems of bureaucratic legacy and loyalty and thus influence the working of public enterprises. Almost all the countries that have been surveyed - India, Pakistan, Indonesia, Malaysia, Zambia, Kenya, Egypt, Mexico, etc. conform to this rule; the apparent exception are provided by the self-managed enterprises of the Yugoslav variety.

### Financing, Budget and Audit

The most critical area of control is Finance. It involves approval of the budget of the enterprise, approval of investment proposals, audit of the financial operations, control over borrowing from the banks or foreign sources, and control over distribution of surplus. In the case of a departmental undertaking with an integrated budget and controlled operation, such an array of control goes without saying. In the case of statutory corporations some of these controls are instituted through provisions of the statute and some are imposed through directives. In the case of a public limited company, a similar approach is followed and then much of the control is exercised indirectly through nominated ex-officio directors.

Approval of the budget is the function of the top management, but in some countries, statutes specifically require formal approval of the Ministry of Finance.<sup>1/</sup> But this power seems to have been used as an exception only in cases of continuously losing concerns. The capital budget or the investment proposals come under stricter and formal scrutiny at many levels and in all countries primarily because the government puts up the fund and investment patterns need to be fully coordinated with the national development plan. Here the control goes beyond the controlling ministry or the Ministry of Finance. Only in case of a government company which can put up money from its own surplus and get the support of an investment bank, the process of scrutiny and approval appear to be simpler.

Audit is a specific tool of scrutiny and control in matters of propriety of financial expenditures judged by the set rules. The departmental undertakings are subject to governmental audit on regular basis while limited companies have to have commercial audit as per law. The statutory corporations are subject to audit, the Government

<sup>1/</sup> Government of Bangladesh: Presidential Order No. 27.

in some countries retain the power of appointment of a commercial auditor. Further, statutory corporations may be subject to random government audit.

Departmental undertakings normally do not borrow from external sources; the limited companies are expected to raise money from the capital market on their own. But the Government, either as a member of the board or with a prerogative of the owner, often conducts a separate scrutiny and its consent becomes necessary for such an action. In case of statutory corporations there seem to be specific clauses making it mandatory to obtain government approval for external borrowing. If borrowing is to be made for running units, this requires approval; in some cases official guarantee helps the unit in procuring the fund. Foreign borrowing for investment purposes has a separate dimension altogether.

Surplus of departmental undertakings is automatically merged with government revenue. Surplus in the case of a limited company can be retained after payment of taxes or distributed as dividends. Governments in some cases retain the prerogative of approval before dividends are declared or surpluses are retained. In case of statutory corporation, this practice is more common. In recent years the Government of Bangladesh has adopted a policy of appropriating a part/whole of the surplus of public sector industrial corporations as a budgetary levy, the legal basis of which is questionable.<sup>1/</sup>

#### Procurement, Production and Price

There are instances of control over procurement. Departmental undertakings may be required to go through a department of supply. In

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<sup>1/</sup> R. Sobhan and M. Ahmad: Public Enterprise in an Intermediate Regime, BIDS, Dacca. 1980



case of statutory corporation or a limited company, foreign procurement is controlled through allocation of foreign exchange which indicates not only the amount but in many countries with restricted availability of foreign exchange, the source of supply. Further, procurement above a certain value may require vetting by the administrative ministry and in certain sensitive cases that of the Cabinet or its sub-committee.

Production targets, where they are set, may be derived from the national plan targets and instituted by the administrative ministry with the prodding of the planning machinery in the country.

Pricing of essential commodities or those which have social or economic externalities are regulated by the Ministry of Commerce or a prices commission. This then acts as a control mechanism. This seems to be prevalent in all the countries surveyed.

The control paradigm is presented below in a tabular form:  
(Table 5).

Table 5: Control over Public Enterprises

Focus of Control	Nature of PE	Agencies involved	Qualifying Remarks
Appointment of Top Management	Departmental Undertakings (DU)	Administrative Ministry	Concurrence of establishment division may be needed; Minister may take interest in a sensitive unit
	Statutory Corporation (SC)	Statute provides the appointment procedure government, meaning the Minister concerned with staff assistance from Ministry	Cabinet is consulted in case of sensitive units; Some Committees (India) or Commission (Nigeria) may be involved
	Government company (CO)	Memorandum and Articles of Association/Incorporation provides it - normally same as SC	Same as in SC
Revenue Budget	DU	Integrated in Ministerial Budget	Administrative Ministry and Ministry of Finance open to consultation
	SC	Prepared by the corporation and approved by the Board	Government may send general directives; in some countries approval by government is provided for, consultation is automatic if government subsidy is provided
	CO	Prepared by the company and approved by the Board	Same as SC
Capital Budget	DU	Integrated in the annual development outlay, Administrative Ministry, Finance Ministry and Planning Ministry are always involved	Has to follow the guidelines of national development plan
	SC	Same as in DU	Same as in DU
	CO	Same as in DU, except in cases where no funding from Govt. is asked for, then investment Board, Financial Institution get involved	Same as in DU
Borrowing from (a) Government (b) Financial Institution (c) Sources external to country	DU	(a) Needs approval of the Administrative Ministry and Ministry of Finance (b) Same as (a), but also of the Institutions involved (c) Same as (a), but may also involve External Resource Division of M/Planning or Ministry of Finance	(a) May require cabinet approval if it involves policy questions, (ie lower rate of interest etc) (b) may require cabinet approval, if it is a sensitive unit/issue (c) require approval of cabinet or its sub-committee
	SC	Same as DU	Same as DU
	CO	(a) same as DU (b) may only need approval of the Financial Institutions Board (c) depending on the case, may only require approval of the Ministry concerned	(a) Same as DU (b) may not require any other approval (c) may not require any other approval
Distribution of Surplus	DU	No surplus accrues as it is merged with government revenue	
	SC	It is the function of the Board. Statute may provide for required approval by Ministry	Consultation with Ministry of Finance may be needed by procedure
	CO	Function of the Board	Government may provide general guidance

Table 5 (contd.)

Focus of Control	Nature of PE	Agencies involved	Qualifying Remarks
Accounting and Audit	DU	Auditor General	Follows government rules and procedures and subject to government Audit only
	SC	Act provides for Audit by a commercial Auditor, selected by the Board but in some countries need clearance of the Administrative Ministry	Random government Audit is often conducted; may have its own Audit/Accounts manual; may have to be answerable to Public Accounts Committee
	CO	Company law provides for a commercial Audit, selection of Auditor is function of the Board	Does not seem to be subject to any other control
Appointments of staff	DU	Subject to government regulation	
	SC	Normally the Corporation itself, some countries involve Public Service Commission or similar agencies	Government may require approval of organogram, service rules, recruitment procedure; and may also issue directive
	CO	Company itself	Government may provide guidance
Salaries and Wages	DU	Subject to government structure	Special dispensation may be given in specific cases
	SC	(i) In a mixed economy with private sector bias, corporations normally free to devise its own in consultation with Adm. Ministry and/or coordinating body	Ministry of Finance salary scale implementation cell get involved in case of (ii)
		(ii) In a mixed economy with public sector bias, there is a given structure to which corporations are required to conform	
CO	Companies are free to fix its own subject to the prevailing structure in private as well as public. There is more pressure to conform to public sector structure in case (ii) above		
Incentives, Bonus	DU	Require government approval in Administrative Ministry and Ministry of Finance	Budgetary Provision required.
	SC	Primary authority lies with its Board, government may give directives/guidance, may in some countries need approval of the administrative Ministry	
	CO	Company decides on its own unless it is related to other units under the government	
Procurement (a) Local (b) Foreign	DU	In both cases may have to work through a Department of supply; subject to all government rules in this respect	
	SC	(a) Normally decided by its own procedure	(a) Government guidance in respect of purchase of locally-made goods and goods manufactured in PE
		(b) Foreign purchase involve allocation of funds involving M/Finance, M/Planning, M/Commerce its own administrative ministry or various combinations of them	(a) and (b) Purchases above a certain value requires approval of the Ministry of concerned and in some cases that of the Cabinet/Cabinet sub-committee.

Table 5 (contd.)

Focus of Control	Nature of PE	Agencies involved	Qualifying remarks
	CO	(a) Subject to its own procedures only; (b) May need allocation in the same way as SC	There may be government guidance
Production Plan	DU	Administrative Ministry	
	SC	Own Board, at times the administrative ministry and Planning Commission	Need coordination with development plan
	CO	Own Board	Guidance
Pricing	DU	Administrative Ministry	In essential items other Ministries/Prices Commission
	SC	In non-essential items, own Board	as in DU
	CO	as in SC	as in DU

(iii)

Autonomy

The precept of autonomy is often perceived as antipodal to control. There is some element of truth in this, but at the other extreme of control lies freedom. A public enterprise is public not merely because it manifests public ownership but also because it has an obligation to integrate its operation with public policy goals. In other words, public enterprises have public purposes which are broader than narrow enterprise goals which are equivalent to private enterprise objectives of technical efficiency, good financial return on investment and the like. Because of the public purpose, these enterprises are required to have public accountability for attainment of public purpose is ensured through politico-bureaucratic control.

The autonomy school would submit that politico-bureaucratic system is not and cannot be the sole guardian of public purpose. They would further contend that the best way to ensure attainment of the public purpose is to imprint it in the enterprise itself through clear articulation of objective and institution of management for that purpose. The enterprise management and politico-bureaucratic appar-

atus should form a team relationship to achieve the purpose and not a hierarchy relation to create conflict. The proponents of autonomy would further suggest that the process is helped by the following:

- (a) there should be well defined rules and less the type of discretion and interference which make control an area of conflict;
- (b) there should be general policy guidelines and not directives, the specificity of which destroys initiative, commitment, sense of responsibility and need for accountability;
- (c) there should be periodic specific reviews based on predetermined parameters for appraisal, rather than general exchange on workings of the enterprise with a view to appreciate/censure the management;
- (d) the purpose of all interaction should be coordination and creation of mutual trust not demonstration of control and rupture of communicative channels; and
- (e) no decision should be taken without appropriate consultation.

The proponents agree that operational autonomy, written in the statute, is only the first safeguard, real autonomy is created by the superiority of knowledge of the enterprise management, performance as per purpose of the enterprise, and mutual trust as "underlying the denial of enterprise autonomy.....is insufficient trust of supervisory authorities in operating manager....."<sup>1/</sup> Only thorough guidance for attainment of objectives and constructive review of operational results help create a balance between autonomy and control. Operational autonomy need not undermine the opportunity for policy guidance and rules for policy implementation need not reduce operational autonomy.

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<sup>1/</sup> United Nations: Measures for Improving Performance of Public Enterprises in developing countries. 1973.

Audit and accountability

Accountability may indeed be defined as the responsibility to explain the conduct/performance. This responsibility can be viewed in terms of the funds made available to the enterprise and/or in terms of the task entrusted to it for performance. These enterprises operate on fund-accounting principles and thus accountability largely concerns the flow of revenues and expenditures, primarily expenditures. The propriety of transactions loom large in the accountability concept.

The financial transactional accountability seem to have different levels. The first is the managerial level where an appraisal of the accounting, financial and other operations within the enterprise is done by an internal unit of its own. The purpose is to check in sufficient detail the accuracy of records and actual transactions; verify maintenance of safeguards against fraud; examine compliance with manual, orders and instructions in respect of operation; note unauthorized variation in transaction and procedures; and recommend corrections and improvements.<sup>1/</sup> The second is the bureaucratic level where an appraisal of financial transactions in relation to the operation of the enterprise is done by a unit set up by the government primarily to ensure that the enterprise did comply with rules and accounting procedure and further to look beyond the accounting corrections into the appropriate use of funds. The third is the statutory/commercial level where an external qualified accounting firm is required to scrutinise financial transactions, assets and liabilities in order to be able to certify that proper books of accounts were maintained and the accounts represent a true and fair view of the affairs of the enterprise. The fourth level is political where the minister, cabinet sub-

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<sup>1/</sup> A statement of the Institute of Internal Auditors of the United States of America, quoted by G. Ronson in "Internal Auditing as an Aid to Management" in V.V. Ramanadan (Ed): Financial Organization in Public Enterprise, Tripathi, New Delhi 1967.

committee, cabinet parliamentary committee or even the Parliament as a whole, reviews certified accounts and annual reports approved by the board in terms of the expectations and actual performance of the enterprise. This gradation is intended to underline the basic importance of the various documents and reports for accountability.

It can be immediately seen that the departmental undertaking, having no juridical identity, is faced with accountability at the bureaucratic level and only in exceptional cases at the political level. The limited companies in the government sector are primarily subject to appraisal at the statutory level, though large companies have internal managerial appraisal and are certainly subject to Ministers review. It is the statutory corporation which is subject to all four levels of appraisal.

Internal audit is thus not universal in respect of the public enterprises within a country and also between countries. Moreover, conditions for appropriate internal appraisal is not always present in the units where it is practised.<sup>1/</sup> Statutory audit is hampered by non-availability of qualified chartered accountants in most of the African countries. In most of the central and South American countries public enterprises are subject to audit by the Office of Controller and Auditor General. Some countries have made a compromise of using private firms through the authorisation of the controllers office (India) or the Ministry of Finance (Bangladesh).<sup>2/</sup>

Enterprises are primarily accountable to the Minister not only for their operation but also for the tasks which are their *raison-de-être*. Political accountability is further drawn into the workings of various

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1/ UN: Report of the Seminar on the Role of Public Enterprises in Planning and Plan Implementation, Mauritius, 1969 (E/CN. 19/463).

2/ UN: Organisation, Management and Supervision of Public Enterprises In Developing Countries, N.Y. 1974.

parliamentary committees which obtain reports and information on the workings of public undertakings. The Minister is accountable to the Parliament and lays down budgets, reports and accounts for information and discussion. The political accountability of this kind presumes a mature democracy, political stability and acceptance of the politico-economic institutions and their purposes. In most developing countries these assumptions seem to be premature and thus political accountability has at best worked as means of political control and at worst as a promoter of political patronage. However, if social objectives are to be given appropriate importance, a kind of democratic political guidance is an indispensable instrument of public enterprise management.

E. PUBLIC INDUSTRIAL ENTERPRISE AND RELATIONSHIP WITH GOVERNMENT IN SPECIFIC AREAS

Basic features of the relation of public enterprise system with the Government, has been discussed in the earlier section. In this section, we intend to deal with certain areas of special interest;

- (a) Investment in PSIE sector
- (b) Pricing of PSIE output
- (c) Surplus distribution

Investment in the PSIE sector

The nexus of Public Enterprise and Government is best brought out by the complexity of the process of approval of investment proposal. Because of the ready availability of material we shall look at India in some detail.

The industries sector in India is divided into three categories:

- (a) exclusive state sector for such manufacturing branches as Iron and Steel, Heavy Plant and Machinery, heavy Electricals, Aircrafts as well



as such mining sectors as Coal and Petroleum; (b) joint sector where private sector is not excluded viz. machine tools, drugs, fertilizers, (c) private sector.

Procedurally the criteria for locus of approval depends on the investment size. If it is below Rs. 10 million, the power to incur capital expenditure lies with the enterprise. Presumably the finance would come from its retained earnings and/or arranged from the market. The Government is not directly involved. If the investment proposed is above Rs. 50 million it is appraised, approved, modified or rejected by the Public Investment Board (PIB) which has representation from the Ministry of Finance, Planning Commission and other concerned Ministries. If the investment is somewhere in between it is considered by the Expenditure Finance Committee (EFC).

Investment proposal has three distinct phases. The first phase involves formulation of the broad proposals of the project without the feasibility study. In fact, it is a proposal to conduct the feasibility study if it meets the priority considerations of the Government. The administrative ministry takes the initiative of consultation with the Plan Finance and Project Appraisal Wing (PFFAW) of the Department of Expenditure in the Ministry of Finance and in case of substantial foreign exchange need, the Department of Economic Affairs (DEA) as well. A report is then sent through PFFAW for consideration of IPB.

If the IPB approves the investment proposal, then a feasibility report is prepared. The administrative ministry sends the proposal to the Financial Adviser (FA) in the Department of Expenditure. He then obtains the views of the Project Appraisal Agency of the Planning Commission, Bureau of Public Enterprises (BPE), PFFAW, DEA and any other relevant agency. The FA collates these views and makes his own appraisal in respect of its economic and social benefits, availability of funds or desirability of diversion of funds, advisability

of undertaking it in the public sector, capacity in relation to demand and supply, financial returns, crucial assumptions and important technical aspects of the project. This collation of view needs internal and inter-ministerial meetings. Then the project report is sent to PIB for consideration. It may defer, trim, accept or reject the proposal. If it is accepted in any form, then the FA makes financial allocation for the project. At the third stage a detailed project report is prepared and the FA deals with this in consultation with ministries concerned and in the light of the decision of IPB.

Thus, it would be seen that the project approval process is involved, time consuming, and bureaucratic. The procedure has gone through changes and has not received good grades from the Committee on Public Undertakings.

#### Pricing of PIE output

Pricing of public enterprise products has attracted attention of economists not only because of its intricacy but also for its implications.

The literature discusses a large number of pricing techniques in the context of the needs of public enterprises. They can be broadly put together under two broad categories: cost-determined and market-determined. In competitive conditions, the enterprise has no power to fix a price and gets a price equivalent to marginal cost for survival and operation and under normal conditions this would lead to the earning of normal profit. In a monopoly the PE would have the opportunity to earn monopoly profit, if it so desires. In a monopsonistic market, it will have to be a price-taker.

Price policy may also be determined on the basis of available alternatives. If the alternative source is imports, import-parity pricing to ensure no extra cost has often been suggested as a price

policy for products which substitute imports. In this case, quality becomes an important variable.

In the cost-determined categories, marginal cost pricing has been advocated as the basic criterion for maximising output and welfare. But on the question of the identity of marginal-cost, there are disagreements. For example, in case of existing excess capacity, economists would advocate short-run marginal cost pricing. But in general it is the long-run marginal cost which takes care of recovery of fixed capital cost. There are even controversies as to how the costing is to be done - on the historical basis or on projected replacement basis; a question which becomes important under conditions of an inflationary/recessionary economy.

A variant of cost-based pricing is the average cost or full cost pricing. Thus average unit cost at a normal level of production has become the prescription as this would allow recovery of full cost. However normal level for a new enterprise and enterprises operating under conditions of uncertainty poses a critical problem. Some would then modify it to mean normal competitive level in which case it approximates the marginal cost.

A careful policy maker would like to ensure a rate of return on investment beyond recovery of full cost. In the case of normal competitive price, it is ensured. But many would advocate cost plus pricing where the base is calculated on actual cost incurred not on the basis of an assumed normal capacity utilisation. The mark-up is needed for an expected rate of return on investment.

If capacity is also to be used as a basis for price determination a decision has to be made about whether the PSIE should be interested in attainable capacity utilisation or the break-even level of capacity utilisation.

Examination of Pricing policy in respect of PSIE in India<sup>1/</sup>

reveals the following:

- (a) Prices of certain commodities are market determined  
e.g. machine tools, bakery products
- (b) Prices of certain commodities are fixed by agreements  
e.g. mineral products
- (c) Prices of certain products are negotiated: e.g. products  
sold to central Government or State enterprises, like  
cables, heavy engineering and electrical equipments
- (d) Monopolistic pricing on the basis of dual pricing in  
differentiated market e.g. steel products
- (e) Controlled prices for essential goods etc. e.g. drugs,  
fertiliser etc.

Inter-ministerial pricing committee and Bureau of Public Enterprises often arbitrate in matters of dispute over pricing in the categories shown above. The basis for pricing is determined either by market factors or by adherence to the cost plus return principles.

A study of the Indonesian<sup>2/</sup> scenario led to the conclusion that there is no set pricing policy. Cost-plus pricing seem to be the method most widely adopted by PSIE which seem to enjoy advantages of monopolistic/oligopolistic markets. Products like fertilizers are subject to price control by the Government. Except for essential goods and construction goods, all the public enterprise products in Nepal are priced on market consideration (i.e. import price from India) including jute goods whose price is determined by prevailing export prices at Calcutta.<sup>3/</sup> In Sri Lanka public enterprises do not have any pricing policy as such but they are subject to price controls in

1/ G.C Baveja: Public Enterprise Policy on Investment, Pricing and Returns in India, APDAC Sept 1976.

2/ Astar Siregar: Public Enterprise Policy on Investment, Pricing and Returns in Indonesia, APDAC, Sept, 1976.

3/ S.B. Kasaju: Public Enterprise Policy on Investment, Pricing and Returns in Nepal, APDAC, Sept, 1976.

respect of certain products in which case price fixation is done on cost plus basis. <sup>1/</sup>

### Surplus generation and disposal

Public enterprises in general, have been accused of not generating surplus for the Treasury. One may however legitimately raise the question: does the government really want surplus from the public enterprises?

In the first place, the capacity to generate surplus is conditioned by the nature of the industry and the nature of the market in which a PSIE sells its product. By definition, in most mixed economies public enterprises have been asked to operate in areas which are less appealing to private sectors or in areas where private operation results in a price-output situation which is undesirable from society's point of view. In both cases, public enterprises cannot be expected to provide a private sector equivalent surplus, or in certain cases any surplus at all. In certain industries however, especially in the case of monopoly, the establishment of PSIE have been based upon revenue/surplus motives.

In the second place, surplus generation can be subject to governmental policies. Government may follow a price control policy which means the enterprise is denied the surplus that could have accrued if it were allowed to follow pricing by market. Government may follow a conscious or unconscious quantity restriction policy. This may be caused by non availability of inputs up to full requirement say because of import restrictions. This may be caused by creating excess capacity and forcing market sharing for survival through negotiated supply patterns. A variant of this is pursued in the name

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<sup>1/</sup> A.S Jayawardena: Public Enterprise Policy on Investment, Pricing and Returns in Sri Lanka, APDAC Sept, 1976.

of competition, dispersal of industries or even encouraging new entrepreneurs in the private sector.

Government actions may affect the cost adversely in various ways. One such way is inappropriate tariff/tax structure making domestic cost higher than that of import. Another way to keep average cost high is artificial restriction of total output through measures mentioned above. Yet another way is to increase the total input cost; the most familiar form is overmanning of enterprises, or the giving of higher than market wage for employees or imposition of an inventory of input because foreign aid is available.

In the context of potential surplus by PSIEs it may be useful to mention tax. A tax input is part of cost and how it can erode surplus has been mentioned above. A tax on output is in fact taking away part of surplus in another name. Any differential tax (or subsidy) would have an effect on the surplus of the enterprise. It is in this context interesting to read the report of the ESCAP consultants' group on Development Strategies For the 1980s in South Asia.<sup>1/</sup> It reads as follows:

The absolute surplus generated by these enterprises, defined in the broader sense to include retained earnings and contributions to the budget by way of taxes and dividends, has grown into a sizable magnitude. However, the major part of it is in the form of taxes which form part of the government revenue pool. Since the bulk of the latter is spent on current operations rather than investment, and that too on non-development activities it follows that much of the surplus is in fact used for current consumption.

Thus, it would be seen that it was a politico-administrative choice regarding the form in which the surplus was taken away and the form in which it is used. Public enterprise was indeed in the recipient end with no influence on these policies.

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<sup>1/</sup> ESCAP: Consultants' Report on Development Strategies for the 1980s in South Asia (memo). The author along with Professors, A. Vaidyanathan, Amit Bhaduri, Mrinal Datt Chowdhury and Rehman Sobhan were members of that expert group.

F. TWO CASE STUDIES

Pertamina

PERTAMINA, not only a "success" story in public sector bereft of large number of commercially successful unit but also an important economic and political entity in its capacity to account for major portion of foreign exchange earning and of budgetary revenue, is an enterprise that seems to have reversed the government-enterprise relationship by pursuing its own success helped by the spiraling increase in the prices of its own product.

Indonesian Constitution of 1945 provides that the "means of production which are important to the State and which affect the life of a majority or a substantial number of people shall be controlled by the State", and that "the natural resources found in Indonesia's soil and waters shall be controlled by the government and shall be used for the greater possible prosperity of the people."

This provided the basis of public enterprises in Indonesia, particularly in the oil and gas sector. The public enterprises were defined as those of which the capital entirely belongs to the riches of the Republic; it could not be divided into shares and the state enterprises were not to be allowed to have subsidiaries.<sup>1/</sup> A reformation led to distinct categorisation of state enterprises in Perjan (departmental undertakings to work in areas not profitable for commercial ventures), Perum (State corporation) and Persero (State enterprises to be run under company law)<sup>2/</sup>. The basic purpose was to prevent majority of state enterprises from receiving budgetary subventions and to place emphasis on efficiency and profitability as well as centralise control in the Ministry of Finance (previously it was with technical ministry) in an attempt to standardize them.

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<sup>1/</sup> Law no. 19/1960.

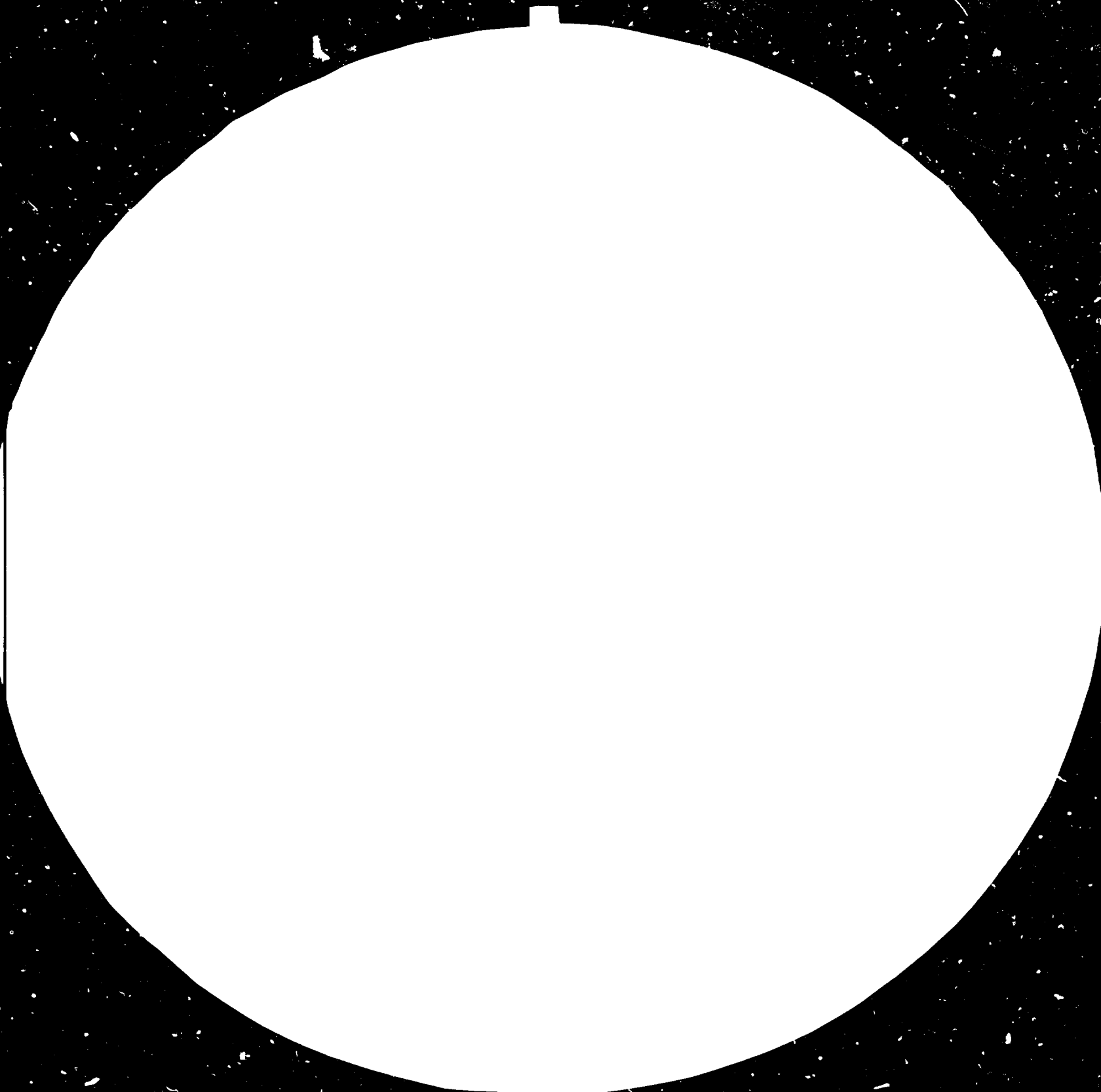
<sup>2/</sup> Law no. 9/1960.

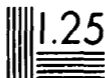
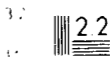
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AVAILABLE FROM NATIONAL ARCHIVES

In the early decades of independence, Indonesia had taken over parts of petroleum industry. These were run through corporate form of organization, presumably for commercial efficiency. Under the law 19/1960, three separate corporate entities were created: PN Pernigan (for small oil fields in Java,, PN Permina (for exporting oil) and PN Pertamina (for domestic distribution and supply to Army). However, PN Permigan was disbanded in the wake of political turbulence in 1965-66. The other two were merged into a single entity PN PERTAMINA.<sup>1/</sup> But finally in 1971 it was put under a distinct legal status under a new law.<sup>2/</sup>

The unit remained a public corporation of which capital belonged to the people (i.e. State) and it had no shares. The purpose of the new law was to enhance government control over revenue of the unit by requiring fixed percentage of revenue generated to be remitted to government automatically, to encourage prudent utilization of available fund, to remove financial dependence of certain functional area (e.g. military) on State oil enterprises, to enable it establish subsidiaries and to distribute its net profit in a specified manner.

Under the previous law, Minister of Mines had virtually exclusive jurisdiction over oil companies. The companies had functional board with a president director and several executive directors, all of whom were appointed by the President of Indonesia for a maximum of five years. The executive directors were responsible to president director who in turn was responsible to the Minister of Mines. This management board was responsible for enunciating enterprise policy, its administration and management of enterprise assets. This Board prepared a budget for approval of the Minister and submitted periodic reports including annual statement of accounts.

The new law substituted the Minister by a State Board of Directors consisting of the Ministers of Mines (Chairman), of Finance (Vice-chairman) and of National Planning. This Board was responsible to the President of Indonesia,

1/ Law No. 27/1968.

2/ Law No. 8/1971.

and had powers to determine general policy for Pertamina; supervise its management; approve corporate budget (including proposals for loan exceeding certain amount, founding of subsidiaries, its field of activities, sales and purchase agreements etc.); discharge, if necessary, a member of the management board; examine annual statement of accounts; determine depreciation schedules and reserved, fix emoluments for members of the management board and issue disciplinary rules. The State Board was to meet once a month and decide matters unanimously and in case of disagreement, President of Indonesia was to give decision.

In spite of this provision, it seems Pertamina became a delinquent and showed disrespect of government policies, partly because of its success in generating profit and partly on the grounds of managerial attitudes and preferences<sup>1/</sup>. Because of its contribution to government revenue, it became an enterprise that arrogated autonomy and promoted disrespect of governmental authority. This raises the very basic question should a public enterprise, established on political and economic premise, be allowed to articulate its performance standards on distinctly commercial consideration as in that case "successful" public enterprises can predicate public decision making on a criterion that was subsidiary to its own creation. The need for control of public enterprises is as much for its efficiency as it is to ensure that public-resource is being used in accordance with the evolving expectation of the citizenry.

Not limited by resources, with moderate technical efficiency but financial success and growth largely caused by inter-national forces, Pertamina created a financial crisis of control and accountability, with serious implications for the national economy, balance of payments, government revenue etc. A case unheard of in the arena of public enterprises in the developing countries despite the law.

<sup>1/</sup> Robert Fabricant: Pertamina: A National Oil Company in Developing Country, in International Legal Center: Law and Public Enterprise in Asia, Praeger, 1976.

Bangladesh Steel and Engineering Corporation

Bangladesh emerged as an independent national entity in December 1971 and decided on a course of policy that would heavily restrict private ownership of large and medium scale modern manufacturing units. In pursuance of this policy, Government took over all left-behind enterprises by the Pakistani owners in all sectors including those in Steel, Engineering and Shipbuilding. Initially in March 1972, two separate corporations were set up, one for Engineering and Shipbuilding and the other for Steel. But in November 1975 these two were merged to form one corporation.

The corporation was set up under a Presidential order with a minimal authorised and paid up capital of BDT 0.5 million which was given as a grant to the corporation. The corporation has a Board of Directors with Chairman and Executive Directors. They are all appointed by the Government on the recommendation of the Ministry for Industries, at times scrutiny by the Secretaries Committee and final approval of the President. They are all appointed for an undefined period and normally equated with members of bureaucracy, except for status and security of job. In this corporation, all appointments so far have been from amongst recognised professional people. The Board is responsible to the Ministry of Industries. The attempt to make them responsible directly to the Minister failed after the changeover in the government in 1975. The Board is responsible to interpret government policy in their own sector and in that sense formulate the corporate policy, particularly production and financial targets. The organisational structure allows for general departmentation as well as staff and like divisions.

The function of the Corporation is perceived as follows:

- (a) prepare corporate plan (including production plan, budgets etc.) and integrate it with the national plan;
- (b) implement all governmental policies relevant to the sector; and ensure fulfillment of legal and statutory obligation;

- (c) monitor, control and coordinate activities of enterprises under its jurisdiction in the light of (a) and (b);
- (d) prepare reports, as required, for perusal by appropriate governmental authorities; and
- (e) maintain effective liaison with the government for fulfillment of its objectives.

In carrying out these activities, the corporation exercises the following control over its enterprises:

- (a) appoint of chief executives and senior personnel of the enterprises generally from amongst its pool of trained personnel;
- (b) fixation of production sales and profit targets on consideration of past performance, attainable capacity, demand etc.
- (c) approval of annual cash and revenue budget and period review of its compliance;
- (d) approval of all major procurements, particularly from abroad which is handled centrally by the corporation;
- (e) approval of pricing of output prices;
- (f) approval of new employment; and
- (g) internal audit.

There is a continuous flow of reports of finance, sales, output, inventory, and the like through management information system. The chief executive of the enterprise keeps general liaison with the corporation, but the departmental heads also keep frequent link with their respective departments. The enterprise is made to institute control over production, wastage, quality inventory, borrowing from banks, cost and sales. There are periodic review on these matters at the corporation and higher level including presidential review. The minister holds a monthly review meeting.

The control on corporation is directly exercised by the Ministry of Industries. However directives are received from Ministry of Planning on capital expenditure, from Ministry of Finance on foreign exchange allocation.

and revenue payable, from Ministry of Commerce on prices, Ministry of Labour on wages, Ministry of Establishment on personnel recruitment. The capital outlay proposals need sanction of the government which has to be processed through the administrative ministry. Further, the corporation is subject to government audit and hearing by Parliamentary Committee.

The organizational form is corporate, controls are expansive and systematic. Such expanded control in a market economy is advocated to ensure that public enterprises do not overstep their restrictive role of making up for the market failure and in a socialist economy it is necessary as they constitute the fulcrum of the national economy. In a mixed economy of a developing country it is argued on the basis that the public industrial enterprises are the principal means of implementing national plans. In whatever way one works, there seems to be a case for control and Bangladesh government seems to have instituted it firmly. Hence with generally high technical efficiency within the limited resource availability and moderate financial success, the BSEC could not avoid or moderate rigid bureaucratic control over its own operations.<sup>1/</sup>

Do the legal provisions and organisational form matter?

#### G. CONCLUDING OBSERVATIONS

The three organisation models, law or practice that creates them and generalised view of their operations provide us with strait-jacket divisions. This is helpful for conceptualisation and possibly administration. On the other hand public enterprises demonstrate a

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<sup>1/</sup> R. Sobhan and M. Ahmad: Public Enterprise in an Intermediate Regime, BIDS, Dacca, 1980, and A. Haque: System of Internal and External Control of Public Sector Industrial Enterprises in Bangladesh, paper presented at Inter-Regional Workshop at ICPE, Ljubljana, July 1979.



kind of organisational development over the years of operation which are not catered to or cared for in these legal provisions <sup>1/</sup>. This has indeed created conceptual difficulties as the relationship between the government and the enterprise can be and in some cases really remains in a state of evolution over time. Further, the control-autonomy-accountability relation which is at the core of the government-enterprise nexus is conditioned by the political philosophy and the state of economic development of the country. The developing countries, categorised as mixed economies, have also shown discrete changes in this respect. Thus to understand the government-enterprise nexus, we have to deal with three sets of variables, viz. nature of politico-economic development attained and/or pursued, legal-cum-administrative characteristics of types of enterprises and dynamics of the evolution of the public enterprises. This concluding section will attempt a rudimentary analysis for incorporation of these variables.

Before dealing with stages of development of public enterprises, it is helpful to remember that in the case of private enterprise, the management objective is purely economic in nature (viz. profit) and the entrepreneur or the management starts the operation with a reasonable internalisation of the objective <sup>2/</sup>. The job of the management is to adjust incrementally to the environment including to the socio-political process. When he finds adjustment to be expensive, he abandons the unit. The case of public enterprise is different.

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<sup>1/</sup> Srinivas Murthy: Strategic Management of Public Enterprise; A Framework of Analysis, a paper presented at BAPEG Conference on Public Enterprises in Mixed Economy LDCs, Boston, March, 1980.

<sup>2/</sup> Recent discussion of influence as a motive for owners and growth as a motive for managers are largely correlated with the economic success of the unit. This makes difference only at the point of optimisation.

For it, the sequence has been reversed. Public enterprises are created to achieve certain socio-political objectives. Depending on the type of enterprise and the type of regime, these objectives dictate the primary operational norms of the public enterprise. The public enterprises are incrementally required to integrate the economizing and optimizing process in its operation. This is a fundamental distinction which is often lost in the application of neo-classical economics to the operation of public enterprises. Neo-classical economics presupposes rationality of market regime, equilibrium of transactional operations, and harmony of the components of the society. These may indeed be correct assumptions in a free enterprise based economy market equilibrium, even in cases of developing mixed economies which puts value in the imperfect market, but such assumptions in other cases would be totally inappropriate <sup>1/</sup>.

The public enterprises are given a set of socio-political objectives for their economic operation by an external body i.e. (government, party, community etc.). These goals have been determined by the objective reality of the interaction of the social forces and manifested through the political process. Except when such enterprises are run by a committed cadre, the management needs to internalise the objectives for their operation. Even a committed cadre, would need to learn in many cases the techniques of operating an enterprise. In internalising the objectives and operationalising the enterprise, the management faces reality in terms of costs and consequences. The sponsors can now react with a better understanding of the reality of operation, cost of realising the objective, and the perceived versus realisable benefit. This reaction crucially determines the evolution of the

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1/ Muzaffer Ahmad: Political Economy of Public Enterprise, a paper presented at BAPEG conference on Public Enterprises in Mixed Economy LDCs, Boston, March, 1980.

public enterprise. If the sponsors evaluate the facts on the strength of their belief, the public enterprises would not be affected adversely even if costs are high so long the socio-political reality permits it. If the sponsors have less commitment to the objective and are sensitive to the results, adverse operational evaluation may indeed lead to abandonment of the enterprise. This possibility is most marked in mixed economy LDCs under a market economy system of development. At times, external aid agencies from developed countries may promote such an approach e.g. post-Soekarno Indonesia, post-Mujib Bangladesh. Another point that needs to be made is that how long an enterprise would remain in this stage of evolution depends on the type of enterprise, type of polity and stage of economic development. Empirical studies show that it varies widely.<sup>1/</sup>

However, at the early stage of development when the public enterprise attempts to internalise the socio-political objectives, operationalise the unit, attempt economising resource use and optimising cost-benefit relation, a helpful necessity is the continued support of the government - both moral and material (for deficient enterprises). At this stage autonomy is a subsidiary issue because without ones own internal strength autonomy would lead nowhere and also because in the final analysis, autonomy is a function of the perception of the external supervisory group of the nature of its effect to achieve the goals for which it was set up. But in one case autonomy may help; that is the case of divided polity and bureaucracy when shelter from bureaucratic subversion of public enterprises may become necessary.<sup>2/</sup>

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<sup>1/</sup> K.R.S. Murthy.

<sup>2/</sup> R. Sobhan and M. Ahmad.

Assuming, that there is no schism in the politico-bureaucratic set up and recognising the necessity of "protection, promotion and support" in the early stage of public enterprise, the most relevant form may indeed be departmental enterprise if we overlook its growth needs in future. The alternative is a subsidiary of an established holding corporation which then provides the support. At this stage of development, it is not possible to pay undue attention to accommodation of private values i.e. financial profit without relating them to socio-political objectives.

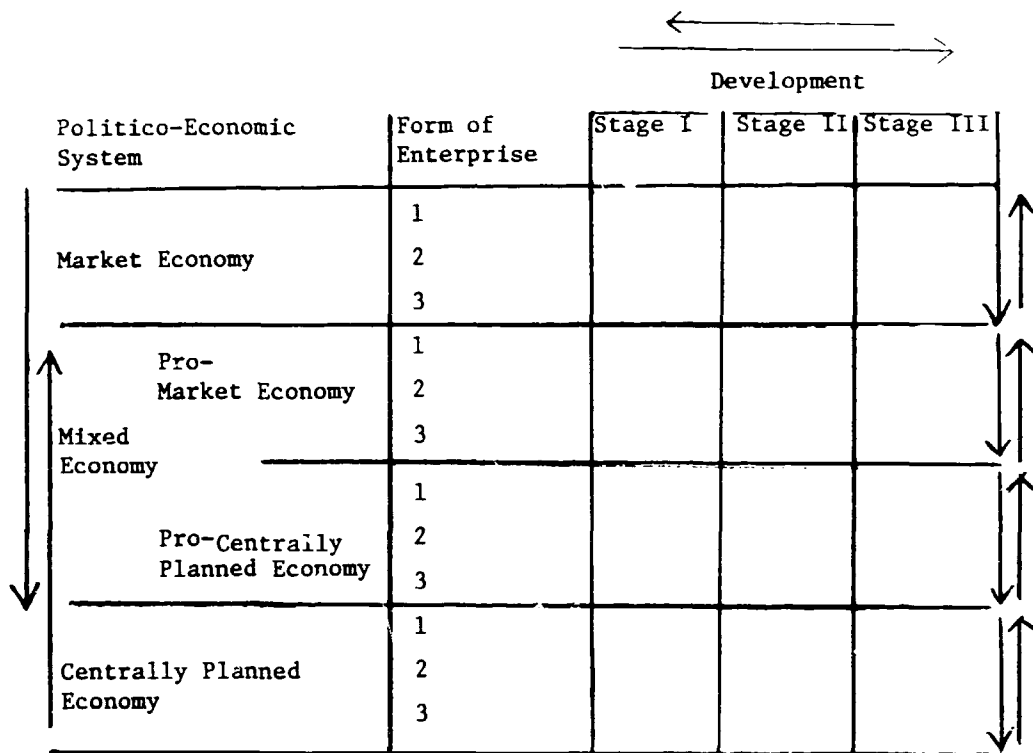
The transition from the first to the second stage is conditioned by successful adaptation of socio-political objectives into the economies of operation making the enterprise viable, not necessarily highly profitable. In this situation, it no longer needs protection and as its sponsors have gained confidence in its ability to survive in a desired manner; there is no reason to deny it operational autonomy. The demarcation line between politics and public enterprise is difficult to define and impossible to legislate; but it can be said with reasonable certainty that unless the polity that matters is satisfied that the public enterprise has introduced desired economic results in obtaining socio-political objectives, political control is not likely to be withdrawn. This is evident in the operation of public enterprises in the infrastructural sector or even in the service sector. Further, there is a possibility of an enterprise retrogressing from this stage into the earlier stage because of the impact of external variables (e.g. technological development).

At this stage, we may consider the public enterprise to have attained state of maturity which cannot be defined by number of years of operation and the stability of supportive dependence of politico-bureaucratic system. When a child reaches maturity only then the

external relations need be defined and a retarded child never gets it. Similarly, at this stage, it becomes necessary to define the control relationships with all external groups functionally and not necessarily through law. Thus in theory, it could be possible to develop a mature relationship with a departmental enterprise at this stage, but the normal recommended form would be the statutory corporation or a government company. There has not been many known graduations from the departmental enterprise form to the forms mentioned above; though many statutory corporations or government companies in effect work as departmental undertakings. The characteristics of this stage is the maturity of the enterprise, and the confidence of the external control group in its ability. Thus at this stage, politico-bureaucracy retain control but it is exercised with a lot of deference. At this point, the effective control of public enterprise is often helped by a defined strategy for public enterprises formulated by social forces in control of the politico-bureaucratic system.

At the third stage, there is a de facto existence of the public enterprise separate from the government, and there is agreement on performance, evaluation and control. However, how much a public enterprise or the public enterprise system can really be separated from governmental planning and its control depends on its strategic importance to the economy and nature of institutionalisation of public enterprise. Ideally, with separation from government agreed upon, the public enterprises are most suited for the public limited company form.

In our deliberation of the stages of development we have also dealt with the three legal forms of public enterprises, though we have portrayed them as functional (de facto) types. Under the circumstances we end up with a following possible puzzle concerning law, organisational type and socio-political development.



The purpose of this puzzle is to conclude that de jure organisational forms are not important to pursue and de facto organisational forms need to be understood in a dynamic context. We are far away from any consistent set of propositions in this respect. But for an appropriate analysis, we need to perceive the operation of the enterprise in the larger context of the socio-political process.

CHAPTER VI. THE LINKAGE BETWEEN OBJECTIVES AND CONTROL MECHANISMS  
IN THE PUBLIC MANUFACTURING SECTOR

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by

LEROY P. JONES\*

A. THE ISSUES

This chapter addresses the basic question to what extent do different ends pursued by public enterprises imply different means so that the appropriate control mechanisms vary in some systematic way across sets of enterprises with different objectives? More specifically, if public enterprises in manufacturing have different objectives than those in utilities, trade or finance, then does this imply different organizational structures, performance evaluation systems or degrees of enterprise autonomy?

These questions are asked in the hope that policy guidance can be derived from a specification of goals so that the perpetual controversies on appropriate public enterprise control policies can be narrowed, if not eliminated, by focusing on particular public enterprise sub-sets defined according to their objectives. That is, the underlying premises are: that policies must follow from objectives; that all too often common policies are applied to enterprises having diverse objectives; and that the mismatch between policies and objectives is particularly acute in the manufacturing sector.

There are abundant examples of public enterprise writings which follow this logic. One general form might run as follows: most public enterprises should pursue both commercial and non-commercial objectives, but the mix varies from enterprise to enterprise; as the role of commercial objectives increases, the enterprise should be in-

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creasingly responsible to markets instead of ministers; and this in turn implies such policies as more autonomy, and a greater role for profit as a performance indicator. For example, the original Morrisonian "Theory of the Public Corporation"<sup>1/</sup> argued that the commercial activities of the government required more autonomy than that provided by the departmental legal form and subsequent literature has suggested a plethora of alternative control devices supposedly appropriate for commercial activities. None of these devices has proven broadly successful, leading some to the view that the mixing of commercial and non-commercial objectives in one institution is inherently uncontrollable, leading to failure to achieve either objective. The solution which follows is a strict institutional segregation of objectives with public enterprises being confined to commercial objectives and leaving all non-commercial objectives to other government agencies.

This chapter assesses the strengths and limitations of such arguments. It can be thought of as a verbal matrix in which one dimension is objectives and the other is control policies. The two dimensions are defined in turn and their interdependence is then considered.

## B. OBJECTIVES

### General

The space constraint precludes discussion of specific objectives. Instead, this section distinguishes between various classes of objectives in an effort to clarify issues.

### Commercial versus Non-Commercial Objectives

The distinction between commercial and non-commercial objectives is both common and useful, but is not generally well defined. At the extremes of course, the distinction is clear: commercial objectives

<sup>1/</sup> Herbert Morrison, Socialization and Transport (London 1933). For an excellent survey of the evolution of this body of literature, see: R.S. Arora, Administration of Government Industries, (New Delhi: Indian Institute of Public Administration, 1969).



are similar to those of private firms and they include such things as increasing sales and keeping unit costs to a minimum. Non-commercial objectives concern external effects of enterprise operations such as opening up a backward area, or increasing national security. Ambiguities arise however in cases where the objective is recognized by the private firm but only partially (for example, generation of foreign exchange with an overvalued exchange rate) or objectives which could be recognized by a private firm if the government chose to motivate it to do so (for example, reducing pollution through an effluent charge)? Are the objectives of earning foreign exchange or reducing pollution then commercial or non-commercial?

There are many ways to answer this question. The following definition is operationally useful - commercial objectives are reflected in the accounting system of the enterprise while non-commercial objectives are not. Achievement of commercial objectives may be evaluated at either privately relevant or publicly relevant prices. Generation of foreign exchange is then a commercial objective whose value will vary depending on the price which the accounting system places on a dollar of foreign earnings or savings. Pollution control, on the other hand, can be either commercial or non-commercial depending on whether or not it is both quantified (e.g. in terms of particulate count) and charged within the accounting framework (e.g. as a tax per unit of particulate).

Under this definition, the commercial versus non-commercial partitioning of objectives is not immutable, but varies with the policy environment. This is a critical observation, because it says that the commercial versus non-commercial bifurcation of objectives is not an exogenous variable but an instrumental variable. That is, one major set of public enterprise policy decisions involves the degree to which objectives are commercialized. A common theme of public enterprise reform efforts (e.g. the French

NORA Report) is that non-commercial objectives should either be compensated or ignored. One may not wish to go this far, of course, but the main point cannot be ignored - commercialization is one major policy tool for dealing with the problems raised by non-commercial objectives.

#### Existential versus Operation Objectives

Existential objectives are achieved by the very existence of the enterprise and do not alter operational behavior. They affect investment decisions but not operating decisions. Project evaluation criteria are altered, but not performance evaluation criteria. For example, the government might decide to build a large integrated iron and steel plant to achieve objectives such as national security and self-sufficiency in strategic materials. These non-commercial existential objectives are achieved so long as the plant is built and actually produces steel, and the operational objectives are strictly commercial (e.g., to produce as much steel as possible while keeping costs down). Similarly a plant may be located in a backward area in part to achieve the objective of regional development through job creation and spread effects. Once the location decision is made, however, this objective has been achieved and the plant can still be operated according to commercial principles. Other objectives are operational and can only be achieved by altering on-going behavior. A particularly important sub-category is pursuit of income distribution objectives which require sale at a subsidized rate. Or, in the context of regional development, an enterprise may be required to spend some of its operational funds on roads, schools, housing, sanitation, etc.

The distinction between existential and operational objectives is germane because of its relationship with the commercial versus non-commercial bifurcation. The reason is that many non-commercial objectives for manufacturing firms are existential rather than operational. To the extent this is so, an enterprise established in part

to achieve non-commercial objectives can nonetheless operate according to commercial principles. To be sure, it may earn a lower rate of commercial return (say, in a backward region) but the interests of society can be served by its operating so as to make that return as high as possible (assuming the return is measured correctly). The degree to which non-commercial objectives are existential is open to question, but in the manufacturing sector, the correspondence is great and failure to appreciate this is a fundamental source of difficulty. To illustrate, in pursuit of job creation it is legitimate to choose a technology involving 50 men and 50 shovels over a technology employing one bulldozer and one man; this existential choice of technology decision having been made, the enterprise should then operate to maximize its surplus, generating resources to be used to buy more shovels and generate more employment (or pursue other social objectives). Instead, many public enterprises buy the bulldozer and then hire 50 workers, absorbing surplus in welfare payments to redundant workers and precluding further investment in real jobs. The problem is that an operational tool has been used to do an existential job.

The argument is not that there are no legitimate operational non-commercial objectives in public manufacturing enterprises, only that their share is small relative to both existential non-commercial and operational commercial objectives. If so, then there are clear implications for control procedures. One of these is that commercial accounts serve as a useful starting point for performance evaluation (though these accounts need to be adjusted to reflect publicly rather than privately relevant profit). Any remaining non-commercial operational objectives can then be allowed for by "commercialization" through a social adjustment account, program contract, or other mechanism. Such devices are necessarily imperfect but may be adequate in a manufacturing firm where their weight is relatively small. It would be quite different in a regional development bank, where

non-commercial operational objectives dominate and errors in measurement would be so large as to make the effort questionable as a control tool.

#### Multiple Objectives versus Plural Principals

No discussion of public enterprise objectives can be complete without reference to the problem of multiple objectives. Public enterprises are called upon to pursue a mix of commercial and non-commercial objectives which can include such diverse goals as earning profits, redistributing income, subsidizing particular regions and sectors, earning foreign exchange, generating employment, and increasing the probability that the party in power will be re-elected. Having such a plethora of objectives can be equivalent to having no objective at all and management is all too often left free to pursue either its own interests or a constantly shifting, incoherent mix.

While the problem of multiple objectives is certainly real, it is also misstated. As Leonid Hurwicz has pointed out,<sup>1/</sup> the real difficulty is not one of multiple objectives but of plural principals. The simplest private enterprise faces a conflict between reducing inputs and costs while increasing output and revenues. A variety of programming techniques are available for handling more complicated cases and much of the economics profession is concerned with establishing weights (prices) to allocate resources so as to maximize objective functions involving multiple objectives. The real difficulty occurs when different individuals have different preferences. For a private enterprise, this is a comparatively minor problem since the various stockholders are likely to have similar trade-offs which can be captured in the objective of profit (which is still a complex variable incorporating weights on various conflicting objectives). Similar agreement is unlikely on the weights of the various elements of the social profit function of a public enterprise. The Ministry

<sup>1/</sup> In discussions at the Second BAPEG Conference on Public Enterprises in Mixed Economy LDC's, April 1980.

of Labour may be primarily interested in employment; the Ministry of Finance in profit, the politicians in low prices in an election year, and so forth. The underlying problem is thus one of plural principals with different objective functions.

The problem of multiple objectives then is largely (though not entirely), one of plural principals which in turn is in part a measurement problem. To clarify matters further, a digression on measurement is necessary.

Measurement of Objectives: A Digression

Measurement of objectives has two steps. Both a price and a quantity must be established. The quantity determines the degree of achievement of the objective, while the price establishes the weight (trade-off) between that objective and others. The product of price times quantity yields a "value" which is the true end of measurement. For some objectives we can quantify the achievement, but not be able to put a price on it. For example, pollution reduction can be quantified in terms of particulate count, but it is much more difficult to decide just how many dollars a particular reduction is worth to society. That is, a quantity can be established, but not a price. For other objectives both quantity and price are difficult to determine; for example, the prestige added by having a national airline or the increment to security from having a domestic munitions factory. The problem of plural principals can then exist when either quantities or prices cannot be agreed upon. For industrial projects the failure to agree on price is probably the more common problem. We can measure both the foreign exchange and the employment generated by a project but the Ministries of Labour and Finance might be expected to disagree on the relative prices to be assigned to the two objectives. Note, however, that a problem can still exist with only a single principal. This will occur if either the quantity

cannot be established or if he is unable to decide on his own relative weighting.

The main point, then, is that both the problems of multiple objectives and plural principals can be reduced to the fundamental underlying difficulty of measurement. Difficulties such as these are of course not an obstacle but a challenge to the imagination of the academic community, and a variety of procedures have been proposed for dealing with the problem (e.g. through conjoint measurement theory).<sup>1/</sup> The applicability of such procedures for alleviating the problem may be debated. Here, the only point is that the critical feature distinguishing various classes of objectives is the degree to which their achievement can be quantified and prices, weights or trade-offs established. The question of the relationship between objectives and control devices can then be reformulated as follows: to what extent does the particular control device vary with the difficulty of measuring objectives? This question is taken up in the next section.

### C. CONTROL SYSTEMS

#### Control systems: The issues

It is useful to begin by defining a "control system" in the broadest possible sense as the answer to the question: "who makes which decision and why?" At the highest level of generality, the "who" answers may be confined to four foci: the government, the enterprise, the market, or the community. The "which" question is important because it emphasizes that there is no single optimal level of enterprise autonomy. If anything, the search is for an optimal pattern of autonomy, since different decisions should ideally be made in different locations. The choice between different locations for a particular decision depends on the "why" question. Which

<sup>1/</sup> Howard Raiffa, "Decision-Making in the State-Owned Enterprise". In State-Owned Enterprises in the Western Economies (pp. 54-62), edited by Raymond Vernon and Yair Aharoni (New York: St. Martin's Press, 1981).

individual or institution has the information, the professional capability and the motivation to use the decision-making power in the national interest?

The more typical view of the control system is narrower in two respects: first, it focuses on the distribution of autonomy between the enterprise and government, and more particularly on the distribution within government; second it tends to ignore the "why" issues. It thus focuses on such choices as: legal form (departmental enterprise versus public corporation versus joint stock company); buffering (use of a holding company); type of parent ministry (single public enterprise ministry versus functional tutelary ministries); audit control (commercial auditor and/or governmental Board of Audit); etc. While such decisions are certainly important, the position taken here is that they are second-order decisions. First-order considerations involve which decisions should be left to government; it is a second-order consideration as to just where in government it should be taken. This is not to minimize the importance of the second-order decisions. They can be critical.

The market and the community must also be considered as alternative control devices. As already noted, markets are an alternative to ministers. In Turkey, credit allocations to public enterprises are made by ministry level decisions, with the (public) banks simply validating the decision by issuing the required credit. Many U.S. public authorities, on the other hand, have the power to issue their own bonds in the market. This is sometimes described as giving the U.S. authority more autonomy. More correctly, however, it should be viewed as a shift in power from the minister to the market. In neither case can the manager issue his own credit. The difference is that in Turkey he has to convince ministers that he is credit worthy; in the U.S. he has to convince the market in the form of large private

institutional investors. To be sure, the two control organs are likely to define "credit worthiness" in a quite different manner, creating quite different problems for managers, but it is by no means clear that the manager has "more " autonomy. The point is not that control via markets is necessarily superior to control via ministers. Indonesia's Pertamina was for many years allowed to borrow freely in international markets with disastrous results. The point is only that the market must be considered as an alternative to government control and one must ask in what circumstances one is superior to the other. Similarly for community control, as will now be discussed with regard to the specific question of who sets objectives.

Who is the Principal? Who is the Agent?

One of the most important elements of the control system, and the one most germane to the present paper, is who sets objectives and why. The answer may seem obvious. Conceptually, it is usually held that the government is the shareholding principal and the enterprise the executing agent. It is then the function of the government to set objectives and the function of the enterprise to achieve them. Despite the obviousness of this notion, it has been disputed by at least two writers.

Aharoni<sup>1/</sup> has argued that the real principal is the public at large, for whom a variety of agents act, including political parties, the legislative and executive branches of government, and the public enterprises. In short, Hurwicz's "plural principals" become Aharoni's "abundant agents". Each agent's view of the public interest is influenced by their own individual and group interest, thus diminishing their ability to establish trade-offs on behalf of the public. It is

1/ Yair Aharoni, "The State-Owned Enterprises: An Agent Without a Principal," in Public Enterprise in Less Developed Countries, edited by Leroy Jones with Richard Mallon, Edward Mason, Paul Rosenstein-Rodan and Raymond Vernon (New York: Cambridge University Press, forthcoming).



then not surprising that public enterprise managers sometimes view themselves as having at least as much of a claim on the objective-setting function as their erstwhile bureaucratic and political superiors. This particular view seems more common among public enterprise managers in individualistic societies<sup>1/</sup> and it is easy to think of a number of reasons why the government might be preferred as a setter of objectives (more directly responsible to the people; superior unit in a hierarchy of agents; better equipped with information on broader social goals, etc). Nonetheless, the basic question is legitimate: in asking just which of a tier of agents is best suited to interpret the interests of the citizens who collectively constitute the true principal. Aharoni suggests a pragmatic solution in the form of an independent "goal audit" which provides a periodic public forum for public scrutiny of the actions of various agents. Howard<sup>2/</sup> shares Aharoni's skepticism of relying solely on government, but suggests that the problems arising from a chain of agents can be short-circuited by direct community input in the form of worker, community and consumer representation on Boards of Directors and by legal and other institutional intermediary groups to watch over the public interest.

The question then is which agent, under which circumstances, is best qualified to set objectives on behalf of the public principal. In particular, does the answer vary with the type of objective? In a loose sense it seems apparent that the more important non-commercial objectives are, the greater the need for Aharoni/Howard kinds of checks on the objective setting powers of the government. There is of course a logical circularity here with the class of objective

1/ For a discussion of the impact of cultural differences on public enterprises, see: Ira Sharkansky, Wither the State: Politics and Public Enterprise in Three Countries, (Chatham: Chatham House, 1979)

2/ John Howard, The Social Accountability of Public Enterprises: Law and Community Controls in the New Development Strategies, in Jones with others.

determining the appropriate agent who in turn chooses the objective, etc. Nonetheless, it seems to make sense to argue that community/public input is much more important for activities such as a regional development bank, where non-commercial objectives dominate. In such a situation, the community/public representatives constitute a sample whose preferences might be taken as the basis for some Raiffa type of weighting procedure to establish trade-offs. The Aharoni/Howard suggestions then become means for mitigating the measurement problem. At the other extreme, such steps might be trivial for a purely commercial oil exporter whose sole function is to generate surplus to be handed over to the government.

#### A Model Control System

If the preceding problem is solved and a proxy principal (best individual or collective) established for the enterprise, then what should the distribution of other decisions be as between the government and the enterprise? The optimal pattern, if there is such a thing, will of course vary across activities, across countries, and across organizations with different histories. Nonetheless, a useful starting point can come from viewing the public enterprise sector as a particular variant of a more general organizational form. To a considerable extent the public enterprise sector can be treated (like a multinational corporation) as a special case of the multidivisional firm. The parent Ministry functions as the head office, the sector corporation is the regional or product-line division and the companies are operating units. In such organizations, what classes of decisions ought to be made at the center, and which at the periphery? More generally, what decisions should be made by any superior unit in a hierarchy? The answers provided to these questions by Williamson<sup>1/</sup>

<sup>1/</sup> Oliver Williamson, Markets and Hierarchies (New York: The Free Press, 1975), pp. 132-154

(for the multi-divisional firm) and Jaques<sup>1/</sup> (for general hierarchies) are surprisingly similar and may be paraphrased as follows.

The head office (or superior unit) should:

- 1) set objectives;
- 2) evaluate performance according to those objectives;
- 3) reward and penalize the chief executive officer according to that evaluation;
- 4) appoint the chief executive officers;
- 5) provide resources (finance);
- 6) conduct long-range planning and coordination among units; and
- 7) do (almost) nothing else.

There are thus six narrow prescriptions and one broad proscription. The proscription is particularly important since it is so often violated. To the extent it is violated, it is no longer possible to hold managers accountable for performance according to objectives. The advantages of hierarchical specialization then break down.

#### Sources of Degeneration

If the foregoing provides an appealing normative pattern for public enterprises, then has the control problem been solved? Unfortunately not, for there is an organizational second-best problem involved. That is, there is an interdependence among the seven precepts such that if one is violated, it is no longer optimal to follow the others. Most importantly, if the prescriptions concerning setting objectives and rewarding achievement fail because of measurement problems, then it is no longer necessarily desirable to follow the proscription.

It is widely held that excessive government intervention in the internal affairs of enterprises is due to reasons such as civil service traditions, political interference, failure of bureaucrats to

<sup>1/</sup> Elliot Jaques, A General Theory of Bureaucracy (London: Heinemann, 1976), pp. 62-86

understand management practices, etc. While such illegitimate reasons for interference of course are common, it is important to recognize that there are legitimate reasons as well. Briefly, if the government cannot exercise control over results (because it cannot measure and reward performance), then it must exercise control over processes.

To illustrate, consider the determination of the level of working capital. In a private enterprise the power to set the level of working capital is almost invariably delegated to the chief executive officer by the shareholders and the Board of Directors. The assumption is that the manager will keep as much working capital as necessary for efficient operation, but no more, since the funds could otherwise be used to generate income directly (in economists' jargon, he will acquire working capital only up to a point where its marginal cost equals its marginal revenue). The reason that this is a safe assumption is that the manager is judged and rewarded on the basis of profit, which will rise or fall (in part) according to the correctness of decisions on the level of working capital. The board can therefore exercise its control function by examining outcomes (profit) rather than the process by which the outcome is generated. If, on the other hand, the manager has little or no reason to be concerned with raising the profit of the firm, then he might not be expected to make the correct decision on the level of working capital. He might divert funds from more productive uses by keeping levels of inventory and cash far beyond the level necessitated by prudent management, so as to reduce risk and avoid any possible difficult decision - it is after all easier to keep all your funds in a checking deposit account than to constantly shuttle them between short and long-term interest-bearing deposits. Or, he might wish to have the working capital available to absorb possible losses and hence disguise inefficiency and keep the enterprise from being shut down. In such situations, the shareholder cannot wholly delegate the working capital decision.

In the case of public enterprise there are two reasons for government involvement in the working capital decision. The first is macroeconomic control of the aggregate level of credit. This, however, could be accomplished by setting an overall credit ceiling to be allocated by price rationing. This effective delegation to the market would fail, however, if it were feared that managers would take "too much" regardless of the price. As a result of this second reason, various representatives of the government - often high level - can find themselves involved in trying to take detailed decisions as to just what constitutes legitimate working capital levels for individual firms. The difficulties are that the process is time consuming, that the ministries often lack the information and the business expertise to know just what levels are "reasonable" and that scarce ministerial talent could be better used elsewhere. In sum, by any standard of modern management, the working capital decision should be delegated to the enterprise, but given inadequate measurement and reward of objective achievement, it often cannot be.

The foregoing is merely one minor instance of a more general phenomenon. It also can explain ministerial involvement in hiring of middle-level-management, wage setting, procurement policies, foreign travel, and much else. The legitimate explanation is that when the principal cannot control outcomes, he must control processes. Delegation of operational decisions to an agent presupposes effective control of outcomes. This in turn requires that desirable outcomes be quantified and that there is some incentive mechanism to insure that the manager cares about the outcome. In sum, when the prescriptions are not carried out, then it is often legitimate to violate the proscription, legitimizing intervention as an organizational second-best solution.

We have now identified another link between objectives and policies. When objectives are measurable, then a much broader class of decisions can be delegated to the enterprise and the market.

D. DISSENT, SYNTHESIS AND CONCLUSIONS

Muddling Through: A Dissenting View

This chapter was obviously written by a narrowly technical economist with a naive faith in a rational decision making process based on clear specification of goals, establishment of trade-offs involving conflicting parties, followed by judicious choice of "least-cost" means of achieving those goals selected from among a comprehensive set of alternatives. This is all very fine in theory, but it is not the way things work in the real world. More importantly, it is not the way things should work. Lindbloom and others have argued that:

"such a synoptic or comprehensive attempt at problem solving is not possible to the degree that clarification of objectives founders on social conflict, that required information is either not available or available only at prohibitive cost, or that the problem is simply too 1/ complex for man's finite intellectual capacities"

Instead, public policy decisions require a process of "muddling through" or "disjointed incrementalism" in which conflict is minimized and consensus built by explicitly avoiding focusing on goals, let alone quantifying trade-offs; rather, concern is focused on marginal changes from existing policies with the aim of forging temporary coalitions amongst interest groups who can agree on a particular policy while disagreeing fundamentally on basic objectives.

1/ A.O. Hirschman and C.E. Lindbloom, "Economic Development, Research and Development, Policy Making: Some Converging Views (Behavioral Science Vol. 7, 1962, pp. 211-222). For the seminal article, see: C.E. Lindbloom, "The Science of 'Muddling Through'". (Public Administration Review, Spring 1959, pp 79-88). For a review of Lindbloom and an attempted synthesis with the technocratic approach, see: Charles L. Schultze, The Politics and Economics of Public Spending, (Washington: The Brookings Institution, 1968). For a selection of papers on related issues, see: Ryan C. Amacher, Robert P. Tollison and Thomas D. Willett (editors), The Economic Approach to Public Policy: Selected Readings (Ithaca: Cornell University Press, 1976).

One piece of evidence for this view is the limited success (failure?) of McNamara's whiz-kids in implementing program budgeting, systems analysis, cost-effectiveness studies and other technocratic solutions in the U.S. Department of Defense. For the public enterprise sector, Murthy<sup>1/</sup> has argued that one of the major "Stage One" tasks of managers is to adapt to an environment of plural principals by choosing policies which reflect consensus or at least do not provoke opposition. To the extent he is successful in this effort, he is delegated increased autonomy and moves to a stage two of public enterprise evolution.

An Attempt at Synthesis for the Public Manufacturing Sector

As always, a synthesis is possible, whether or not it is desirable. The tactic is to bifurcate activities according to whether the preponderance of relevant objectives is commercial or non-commercial. At one extreme are decisions such as the trade-off between F-16 fighters and elementary education, or between redistributing jobs or income to one ethnic group, class or income decile. Here, synoptic rationality is inappropriate and disjointed incrementalism is unavoidable. The critical premise for this paper is that the activities of public manufacturing enterprises lie much nearer the other end of the spectrum, with non-commercial operational objectives being a small share of the total. An integrated steel mill in a backward area may have a legitimate non-commercial objective of contributing to community development through road-building etc., but whatever value is put on such an activity will be small relative to the value of the steel output and the energy and iron inputs. For such an enterprise even large errors in measurement of non-commercial objectives will be a small share of total enterprise

<sup>1/</sup> R.S. Murthy, "Strategic Management of Public Enterprises: A Framework for Analysis". Paper presented at the Second BAPEG Conference on Public Enterprise in Mixed Economy LDC's, Boston, April, 1980.

performance. Accordingly, efforts to commercialize non-commercial objectives through program contracts or social adjustment accounts, however imperfect, will involve acceptable margins of error. In this scheme the primary operational objective of the manufacturing sector is to generate surplus for transfer to the government for use for other public purposes, with secondary non-commercial objectives being quantified and treated as dividends-in-kind. The distribution of surplus at the government level is necessarily governed by a muddling through decision process, but the generation of surplus at the enterprise level can be governed by synoptic rationalism.

This is of course contrary to common practice, since much public enterprise decision making is more aptly described by the model of disjointed incrementalism than that of synoptic rationalism. This may be defended but the price is high in terms of resulting cost inefficiencies. I have calculated<sup>1/</sup> that the benefits from improving public enterprise efficiency by only 5% would:

- 1) in Egypt, amount to about 5% of GDP, equivalent to 75% of all government direct taxes or enough to triple government expenditures on education;
- 2) in Pakistan, amount to about 1% of GDP, equivalent to 53% of direct taxes or enough to fund a 46% increase in government expenditures on education;
- 3) in South Korea, amount to 1.7% of GDP or over one billion dollars in 1981.

1/ "Improving the Operation Efficiency of Public Industrial Enterprises in Egypt". Report for the U.S. Agency for International Development, August 1981.  
"Efficiency of Public Manufacturing Enterprises in Pakistan". Report for Pakistan Ministry of Production and the World Bank, February 1981.  
"Comments on Development of a Performance Evaluation System for Korean Public Enterprise Sector". Seoul: Korea Development Institute, June 1981.



E. SUMMARY

This paper may be summarized in the following propositions:

- 1) For control purposes, the most important way in which objectives differ is in the ease with which they can be measured.
- 2) Where objectives are measureable, then a pure model of principal/agent relationships can be applied and the appropriate control system consists of six prescriptive functions to be carried out by the government with all remaining decisions delegated to the enterprise and the market.
- 3) Where objectives are not measureable then the hierarchical model breaks down and an inchoate process of "muddling through" must be resorted to. This can result in legitimate government intervention in the internal operations of the firm and has major efficiency costs.
- 4) Most, if not all, public enterprises have both commercial and non-commercial objectives, but in the manufacturing sector the operational non-commercial objectives are generally small relative to the total, rendering acceptable the errors in measurement inherent in devices for commercializing objectives such as program contracts or social adjustment accounting. Once such devices are in place, the model referred to above provides a norm towards which reform of the control system can aim.

CHAPTER VII. EVALUATION OF PERFORMANCE OF PUBLIC INDUSTRIAL ENTERPRISES: CRITERIA AND POLICIES <sup>1/</sup>

A. INTRODUCTION

A public industrial enterprise is expected to fulfil a large number of objectives: generate a financial surplus, help reduce unemployment, develop skills, contribute to growth, technical progress and the correction of regional imbalances. The important issue that is addressed in this Chapter is how to evaluate PIE performance in view of the multiplicity of objectives thrust upon it.

The multiplicity of objectives pursued by the public industrial enterprise has generally been recognized by conventional authors <sup>2/</sup>. It is argued however that success in the achievement of these objectives can be evaluated in terms of the impact of public enterprise performance on the level of "economic welfare" as conceived in conventional theory. The establishment of public industrial enterprise is generally seen as an economically rational response by Government to persistent "market failure" in specific industrial branches. Indeed, Leroy Jones argues that "(neo-classical) theory provides not a defence

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<sup>1/</sup> This chapter was prepared by Javed Ansari, Lecturer on International Economics, The City University of London, UK, based partly upon the following studies prepared for the UNIDO expert group meeting on the Changing Role and Function of the Public Industrial Sector in Development, 5-9 October 1981:

- Evaluation of performance of industrial public enterprises: criteria and policies, by Glenn P. Jenkins, Institute Fellow, and Mohamed H. Lahouel, Researcher, Harvard Institute for International Development, Harvard University, Cambridge, Mass., US.
- An approach to performance evaluation of public industrial enterprise, by Praxy Fernandes, Chief United Nations Adviser, International Center for Public Enterprises in Developing Countries (ICPE), Ljubljana, Yugoslavia.

The views expressed in this paper are those of the authors and do not necessarily reflect the views of the Secretariat of UNIDO.

<sup>2/</sup> M. Choksi, State Intervention In the Industrialization of Developing Countries. World Bank Staff Working Paper No. 34, World Bank, Washington, 1979, p. 172-181, lists over 20 such objects.

of laissez-faire but a list of economically rational motives for its restraint" <sup>1/</sup>. Since the assumptions underlying this theory are often violated in the modern world it cannot be argued that Government attempts at market regulation will necessarily result in a distribution of goods and services which is socially inferior to the distribution that would have emerged from the "free" interaction of market forces. Pareto optimality <sup>2/</sup> is attained only through the operation of a perfectly competitive market system. Public regulation is justified within the context of the neo-classical paradigm if there exist material or policy-induced monopoly conditions, substantial externalities, imperfect knowledge and/or incompetent management. Public regulation may also be justified if the concern is with the production of merit goods. When public authority intervenes in a market to offset these factors, conventional theory interprets it as acting in order to overcome barriers to Pareto optimality. It is also recognized that state intervention may augment "welfare" by changing the existing pattern of wealth distribution or altering consumer tastes. Moreover, it is appreciated that correcting imperfections within a given market may entail intervention in a wide spectrum of related economic activities.

Public intervention may take a variety of forms. The conventional approach regards the establishment of public industrial entities to be of relatively minor importance. "Public economics" has traditionally been concerned with the public "provision" of goods and services. Analyses of public sector production have been few and far between. The main concern has been with the consumption impact of the production of what may be described as "quasi-public" goods. Neo-classical

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<sup>1/</sup> L. Jones, Public Enterprise and Economic Development: The Korean Cure, Korean Development Institute, Seoul, 1975, p. 14.

<sup>2/</sup> Pareto optimality implies that for a given distribution of income it is not possible to make one person better off without making someone worse off.

literature focuses on problems of efficient pricing and investment and although this literature is ostensibly related to an evaluation of public enterprise performance, it rarely concentrates attention on the nature of the producing entity. Its over-riding message is invariably that production of "quasi" public goods (whether undertaken by private or public firms) should be geared to the objective of maximizing social welfare <sup>1/</sup>.

In the event of the existence of "market failures" and where market imperfections cannot be eliminated by taxation and subsidization, the objective of maximizing social welfare can be addressed by public production. Thus the establishment of public enterprises could be a "feasible means for incremental industrial asset redistribution in countries where stock markets and other institutional devices are not likely to exist and where if they do they are unlikely to be used by the bulk of the population" <sup>2/</sup>. Similarly, inability to levy taxes or prohibitive administrative costs in the distribution of subsidies to consumers or private producers may render public enterprises as more effective instruments for the achievement of "second best" welfare solutions in developing countries.

The contribution of PIEs to economic welfare may be measured in a variety of ways. The first criterion that comes to mind is that of financial profitability. Indeed almost all the studies on PIEs are limited to this criterion. Quite often, however, manufacturing PIEs are not financially profitable. Poor financial performance is usually explained away by vague references to the fulfillment of socio-economic functions.

This chapter will review approaches to the assessment of economic performance of PIEs. It will also discuss problems of evaluating PIE

<sup>1/</sup> For an outstanding example of this type of work see R. Turvey, Economic Analysis and Public Enterprise, Allen and Unwin, London, 1971.

<sup>2/</sup> D. Lall, "Public Enterprises" in J. Cody, H. Hughes and D. Wall, Policies for Industrial Progress in Developing Countries, UNIDO/World Bank, OUP, New York, 1980.

performance in the achievement of non-economic (distributional) objectives assigned to PIE at the time of their establishment.

B. ASSESSING ECONOMIC PERFORMANCE

Conventional theory holds that the performance of PIEs ought to be assessed on the basis of their net contribution to social welfare - properly defined - which is equal to the difference between the social value of the benefits it generates and that of the resources it uses. Thus, from a social standpoint a public industrial enterprise is making a positive contribution to welfare if it produces marginal social benefits that are equal in value to marginal social costs. It is hard to question the validity of this very general principle. Problems arise, however, when trying to assess contribution.

Financial Profitability

Although it may take into consideration social responsibilities and constraints, a private firm generally directs its operations towards maximizing financial surplus because its owners are interested in enhancing their purchasing power. Would public industrial enterprise serve the public interest if it pursues the same profitability target?

Financial surplus is defined as the difference between output and cost of production, both valued at market prices. Neoclassical economic theory tells us that in the absence of any market imperfections and distortions, and provided income distribution is socially optimal, the maximization of financial surplus by each firm results in the best resource allocation in the following sense: no quantity of any good can be increased without reducing that of another good. no con-

sumer can be made better off without making some other consumer worse off, and social welfare is maximised.

In this "ideal" world public industrial enterprise would serve social welfare best by directing its operations toward the maximization of financial profit. Its performance ought then to be judged on the basis of the financial return per unit of capital used. Fluctuations in profitability due to factors outside the control of managers should be taken into account, but on the average a specific public industrial enterprise ought to generate a return on capital at least equal to the return that could be obtained in alternative uses.

In contrast to this "ideal" state economies are in fact riddled with market imperfections and distortions. First, even in developed countries many industrial sectors, such as the steel or the automobile sectors, are characterized by an oligopolistic market structure that allows a very small number of firms to control prices. In developing countries public industrial enterprises often avail of quasi-monopoly power, especially in heavy industries so that relatively high financial surplus could be achieved by restricting output and charging high prices, thus reducing social welfare. The high tariff barriers that have been erected in many developing countries have enhanced the capacity of PIE to dominate domestic markets. In view of such market structure financial profitability does not necessarily reflect the contribution to social welfare.

Secondly, market prices of inputs and produced goods often do not reflect their opportunity costs due to taxes, tariffs and quotas on imports and administratively set prices. A positive financial performance may under these conditions be consistent with negative social surplus or even negative value added, if the latter were evaluated at international prices.

Thirdly, public industrial enterprises are often called on to undertake activities for which they do not receive financial

compensation. In order to maintain or expand employment they may be asked to hire workers beyond the level warranted by maximization of financial surplus, incur higher fixed or operating cost by locating plants in disadvantaged regions of the country, bear the cost of training young workers, keep prices of their products relatively low so as to help low income groups or to reduce inflationary pressures, etc.. While the financial costs of these objectives may be borne by the PIE's the benefits generated are not reflected in their revenues, so that financial surplus will be a misleading indicator of social surplus.

Fourthly, a public industrial enterprises cannot be expected to be financially profitable in its early life if it is engaged in manufacturing activities where a process of learning has to develop before resources could be efficiently used.

For all these reasons financial profitability may not reflect the economic contribution of public industrial enterprise. Furthermore, the manager of a public industrial enterprise ought not to be held accountable for poor financial performance if government representatives frequently interfere in day-to-day operations, or if he is instructed to pursue multiple objectives which may or may not include financial profit.

In spite of all these weaknesses the indicator of financial profitability should not be discarded. Public industrial enterprises are unlikely to be run efficiently in the long-run if they do not run a surplus or at least break even. Insofar as success in its operations requires relative autonomy, the ability to cover costs and run surpluses for the purpose of investment is needed. An enterprise that constantly runs deficits has to deal with bureaucratic interference that is bound to adversely affect its operations.

One may even go further to suggest that a public industrial enterprise is unlikely to serve socio-economic goals unless it

generates adequate internal funds; socio-economic activities are often the first to be cut when PIE faces financial difficulties. Theoretically, the funds needed could come from the government budget. The problem is that due to its limited capacity to tax government may be forced, due to the size of the subsidies involved, to run overall budget deficits that have to be financed through printing money. In view of the budget constraint of the government, manufacturing PE's ought to take financial profitability into account, although this does not mean, as argued above, that they should seek to maximize financial surplus. In addition, the financial target should be set over a period long enough to allow for fluctuations in the general conditions of the environment in which public industrial enterprise operates.

#### Economic profitability

Financial profitability ought not, however, be the main criterion against which performance is to be assessed, due to the market imperfections and distortions that have been previously mentioned, and due to the multiplicity of objectives that are commonly demanded of PIE.

The economic contribution of a PIE is equal to the difference between benefits and costs, measured at accounting prices, that is at prices that reflect the opportunity costs of both output and the inputs used. Several adjustments to domestic market prices have to be made to arrive at the economic contribution. Since the economic literature on shadow pricing is well developed these adjustments will be reviewed only briefly.<sup>1/</sup>

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<sup>1/</sup> See for instance Squire, Lyn and Van Der Tak, Herman, G., "Economic Analysis of Projects", John Hopkins University Press, Baltimore, 1975.



First, it has been argued that the wages that are paid to manufacturing workers in developing countries are often regarded by neoclassical analysts to be above the value of their marginal product in alternative employment, which is the relevant economic cost of labour. If, for instance, the workers employed by a given PIE have been hired from a pool of unemployed, then their opportunity cost is zero. For unskilled labour its opportunity cost may be approximated by the wage rate prevailing in the rural labour market, provided the latter is sufficiently competitive. Another component of the economic cost of labour is the additional cost that workers may have to incur in an industrial environment, such as transportation to factory, additional food or shelter.

The second financial cost that has to be adjusted is that of borrowed funds. FIEs may borrow from government-owned or controlled banks at rates below the opportunity cost of capital, or obtain loans from private domestic or foreign banks with government guarantees, which would place them at an advantage vis-a-vis private firms. The economic cost of borrowed funds has to be deduced from gross benefits if government is concerned with the social return to equity capital. Public industrial enterprise borrowing from domestic financial markets entails a combination of reduced present private investment and consumption. The opportunity cost of credit to PIE is therefore a weighted average of consumer's rate of time preference, the rate of return on capital in the private sector - properly adjusted for risk - and the foreign lending rate, with weights reflecting the three sources of credit. There is also an implicit cost borne by the government in guaranteeing loans against default by PE, which should be considered as a component of the economic cost of borrowed capital.

A third correction involves the values of inputs imported or

goods exported by PIE. Most developing economies feature exchange regimes with overvalued exchange rates. Excess demand for foreign exchange is usually suppressed through tariffs and quotas on imports. The overvalued official exchange rate does not reflect the opportunity cost of one unit of foreign exchange used by PIE, especially if the latter receives preferential tariff or quota treatment. Use of foreign exchange by PIE may entail either a reduction of imports by other economic units, a reduction of exports or a combination of both. In the simple case where the total cost is imports foregone by other units the economic cost is equal to the ratio of the domestic value of imports to their c.i.f. value; domestic value is equal to the sum of c.i.f. value, tariffs and an estimate of the premium derived from quotas. When exports are taken into account, the formula for shadow exchange rates becomes more complicated. PIE exports ought also be valued not at the official but at the shadow exchange rates.

The latter adjustment also applies to government-set prices. Government may, for instance, set the price of fertilizer produced by a public enterprise relatively low so as to subsidize a given category of farmers. The economic value of PE output is not, in this case, the government-set price but the international price, converted at the shadow exchange rate.

Another type of adjustment that has to be brought to the financial accounts of PIE deal with taxes it may pay the government or subsidies it may receive from it. For the purpose of economic calculation taxes paid by PIE do not constitute a cost whereas subsidies received are not part of the economic benefits it generates. Both items are merely transfers that take place between government and PIE.

In addition, the pricing policies of PIE may be directed by government towards improving income distribution. Welfare economics

tells us that pricing in accordance with Pareto optimality is desirable only if government can achieve the desirable income distribution through non distortive taxes and transfers. The latter tools do not, however, exist. Furthermore, government's capacity to tax and effect transfers at reasonable administrative costs may be limited. An alternative way of improving income distribution would then be to underprice PIE produced goods that take up larger shares in the budget of the poor than in that of the better-to-do. The distributional benefits ought to be credited to the PIE involved. These benefits may be difficult to assess but they must be equal at least to the difference between the domestic value of PIE's output under competitive conditions and its actual value.

PIE may carry out other activities of social value but for which it may not receive any pecuniary compensation. It may, for instance, be asked by government to locate some of its plants in an economically disadvantaged region of the country. Such location is likely to increase both capital and operating costs. Whereas these costs are borne directly by the PIE involved the benefits accruing to the region would not show up in its financial accounts. Ideally, these benefits should be estimated and added to PIE gross revenue, adjusted at shadow prices as previously indicated. This is likely to be a difficult task. In addition, the location decision may be imposed by the government on PIE even if the latter has doubts about the benefits that the former argues would accrue to the region. It may therefore be more reasonable to exclude both the positive externalities that may accrue to the region and the incremental cost of locating plants in poor areas from the calculation of social surplus. This does not, however, mean - as it will be later explained - that PIE cost-efficiency performance with regard to the objective of correcting

regional imbalances and other non-commercial objectives should not be assessed.

Other non-commercial activities that may be undertaken by PIE may involve the provision of social and economic services to the community in the midst of which it operates, such as free or subsidized electric power, free access to its own health facilities, the building of roads, etc.. PIE may also provide its own employees with free or subsidized social services such as housing, summer camps for children, etc., which are not part of operating cost and should therefore be costed out of net social surplus.

There are other tasks which government may thrust upon PIE, which lie outside its commercial activities; such as training workers and maintaining or expanding employment beyond the level warranted by some minimum financial profitability or even economic profitability, the latter assessed at shadow prices. These costs should also be assessed and separated, to the extent possible, from those of purely commercial operations.

The preceding section has been an overview of the types of adjustments to the PIE financial accounts that are necessary in order to measure social profitability. Carrying them out is not, however, a straightforward task. There are difficulties, for instance, in estimating the true economic cost of labour, even though there is some agreement among conventional economists that it is lower than the actual wage rate, in estimating the shadow price of foreign exchange when quantitative restrictions loom large in the trade regime, or in estimating the costs of non-commercial objectives. The types of adjustments that could be made with some degree of confidence would therefore vary from country to country depending on the availability and reliability of data. However, a meaningful evaluation of PIE

economic performance requires that a minimum of three adjustments be made: reevaluation of traded inputs and finished goods at the shadow price of foreign exchange, estimation of costs of non-commercial objectives and of the true opportunity costs of borrowed funds.

Conventional analysis addresses itself to the task of making these adjustments by using the technique of social cost-benefit analysis.

Social cost-benefit analysis retains the formal framework of present value calculation. It re-calculates factor prices (including the price of foreign exchange) in terms of the relative social scarcity of these factors. Public investment can thus be systematically geared to the task of correcting/offsetting market distortions and contribute towards an enhancement of both efficiency and equity.<sup>1/</sup>

Extensive criticisms of this approach have been presented.<sup>2/</sup> First the derivation of these "shadow" prices presupposes the simultaneous existence of an "efficient" output configuration. However, change in the output mix due to the operation of projects selected on the basis of "shadow" prices that were "correct" for the original output programme will imply that a different set of "shadow prices" is now required to achieve efficient resource allocation. Moreover, as Bhaduri argues, there is "no guarantee that the national output configuration (on the basis of which "correct" shadow prices are being derived) has the required property of dynamic stability with

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1/ This approach is adopted by both UNIDO, Guidelines for Project Evaluation, UN sales publication E 72.II B II and Little, I.M.D. and Mirless, J., Project Appraisal In Developing Countries, Heinemann, London, 1974.

2/ See, e.g., Streeten, P. and Stewart, F. "Little Mirless Method and Project Appraisal", Bulletin of the Oxford University Institute of Economics and Statistics, 1972, p. 75-91 and Bhaduri, A., Cost Benefit Analysis for Project Evaluation, UNIDO ID/WG.334/3, 1980.

respect to piecemeal use of shadow prices in selecting public projects".<sup>1/</sup>  
In other words, the use of shadow prices, even when adequately corrected to take into account changing output mixes, does not guarantee that resource allocation patterns will gradually converge towards the (desired) efficient national output configuration. Such a convergence can only be shown to exist if it is assumed that the problem of effective demand is of no consequence as far as developing countries are concerned, i.e. that government intervention through the systematic use of a given project selection criteria will not influence the overall level and composition of public investment, and this will not, in turn have an impact on effective demand through the (Keynesian) multiplier mechanism.

Another important criticism of "social cost benefit analysis" is that its use does not allow the analyst to take into account the qualitative differences in the output stream of different economic projects. Selecting between a factory producing fire arms and a factory producing wearing apparel in terms of the standard categories of "social cost benefit" analysis obscures the profound qualitative difference in these two output streams. It also obscures the place each unit of production may have within a comprehensive integrated investment scheme. In order to integrate "social cost benefit" analysis into a framework of national economic planning, it is necessary to make a deliberate choice as to the desired physical composition of national output. "Social cost benefit" analysis relies on world market prices as indicators of the pattern of resource allocation which will permit a developing country to maximize the net flow of consumption from a given unit of investment over a specified time period.<sup>2/</sup> The

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1/ Bhaduri, Op. cit., p. 13.

2/ Little and Mirless, Op. cit..

prices represent to the country concerned the opportunity cost of obtaining any given product. However, as Lall and Streeten have pointed out, "The relative values of these products represent the demand patterns and preferences of the developed countries and the technological and marketing patterns of the large oligopolists which dominate production there".<sup>1/</sup> Since price formation in oligopolistic markets is strongly influenced by bargaining processes, there is a strong temptation to use policy mechanisms for exerting pressure to influence these price formation processes. Moreover, preference articulation in developing countries is affected by forces at work in the international economy and governments of developing countries are by sheer force of circumstance compelled to seek to modify the impact of these forces on the pattern of resource allocation within the national economy. Thus it is the desire to modify individual preferences - to make them conform to the government's own perception of the country's social needs - which lies at the root of most attempts at economic intervention by Third World governments.

The problem of preference re-ordering is not adequately addressed within the context of the neo-classical approach. This approach is based upon an ideological perspective which assumes that the individual's attempt at maximizing his own welfare provides the economist with a knowledge of correct social preferences. It is these preferences that "ought" to be fulfilled. The optimization of social welfare can be achieved through the fulfilment of these preferences. The process of formation or articulation of these preferences is not regarded as an appropriate area for economic analysis, nor does economic analysis

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<sup>1/</sup> Lall, S. and Streeten, P., Foreign Investment, Transnationals and Developing Countries, Macmillan, London, 1977, p. 186.

concern itself with assessing the extent to which the fulfilment of different preferences will increase social welfare.<sup>1/</sup> This liberal philosophy - and its implied theory of the state and of the role of the government in society - which underlies welfare economics is thus an inadequate point of departure if one is concerned with explicating an economic strategy which is concerned with attaching priority to the satisfaction of basic needs, to achieving economic self-reliance or even to creating a better pattern of income distribution.

It is therefore important to recognize the wide margin of error estimates of shadow prices are subject to. PIE may show a much higher economic performance at one set of shadow prices than at another set.

Other criteria for measuring economic performance may be mentioned.

#### Capacity utilization indicators

In a comparative study of performance of Asian fertilizer plants, Leroy Jones<sup>2</sup> suggested the use of the rate of capacity utilization as a complement to that of economic profitability. He argues that the correlation between these two indicators is likely to be high for the following reasons: fertilizer output is homogeneous so that technically it is difficult to raise capacity utilization at quality's expense; average fixed cost and even variable cost decline where output is raised. This criterion is not however free of pitfalls. First, determining productive capacity may be a difficult task, as Jones himself has pointed out and suggested ways of doing it in the specific case of fertilizer plants. Secondly, a high degree of capacity utilization may not be associated with an output of a high social value, so that government may have to accept large inventories of

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<sup>1/</sup> For qualifications to this statement, see Stilwill, F., Normative Economics, Oxford Pergamon, 1975.

<sup>2/</sup> Jones, Leroy, "Public Enterprise Performance: A Methodology and an Application to Asian Fertilizer Plants", unpublished manuscript, 1979.



finished goods or market them at subsidized prices. Finally, it may be achieved in some manufacturing sectors at a large cost of input wastage. For all these reasons capacity utilization remains a partial indicator of performance. It may nevertheless be useful particularly in assessing the performance of PIEs involved in highly capital intensive industries.

C. FACTOR PRODUCTIVITY AS A PERFORMANCE INDICATOR

Changes in factor productivity ought to be reflected in the economic surplus PIE generates. If PIE uses inputs with greater efficiency, its economic surplus would be larger. That does not, however, mean that the factor productivity indicator is redundant. First, the two indicators are calculated with two different methods; factor productivity is traditionally measured by the ratio of physical output to labor, capital or a combination of both, whereas economic surplus is measured by the value of net benefit, estimated at accounting prices. The former criterion is therefore a way of checking the robustness of economic surplus calculations. Secondly, productivity is a more direct criterion to assess PIE contribution to growth and learning to use resources more and more efficiently, especially when the total factor productivity measure is adopted. If a PIE operates in an infant industry or is expected to contribute to the expansion of the country's manufactured exports, an undertaking that requires it to become competitive in international markets, then it is important to assess its factor productivity growth. As will be shortly seen this criterion also has its own ambiguities and problems.

Single Factor Productivity

The best known measure of factor productivity is the ratio of gross output or value added to labor employed. It is often used when comparing performance between PIE and private firms operating in the same industry, or in assessing the progress made by a given PIE over time. It is a straight forward measure when output is homogeneous in nature and quality and labor in skills. This is rarely the case; in general, the value of output has to be converted into real terms at appropriate deflators, and labor categories of different skills have to be aggregated into a total labor input. In addition, a number of the employees may have been imposed by government on PIE in order to reach some employment objective. Unless corrected for such externally imposed overmanning, the productivity measure would then be distorted since it may show relatively poor performance even though PIE may not be at fault. Finally, improvements in labor productivity are not always associated with greater efficiency in resource utilization. Productivity may indeed be raised by adopting more capital-intensive techniques. Account must therefore be taken of the capital used per unit of output.

An alternative measure of factor cost efficiency is the capital-output ratio. It requires knowledge of PIE capital stock with all the problems of estimation involved: calculation of true economic depreciation, aggregation of different capital goods etc. This measure also remains a partial indicator since it does not take account of labor use. In addition, it may be misleading to assess a PIE performance by comparing its capital-output ratio to that of private firms in the same industry if government reduces the cost of capital to it below the market cost through loan guarantees, subsidies and

low return to equity requirements.

Meaningful conclusions can be based on single factor productivity measures only if both ratios of labor and capital to output move in the same direction in time series or across private and public enterprises of the same industry. Otherwise, total factor productivity is a superior criterion of performance.

The change in total factor productivity over a given period can be measured by the difference between the rate of growth of output or value added and a weighted average of the rates of growth of labor and capital stock, the weights reflecting roughly the shares of the two inputs in the value of output. The difficulties involved in determining the real quantities of output, labor, and capital that are required for the partial productivity measures are also at play when measuring total productivity. Nevertheless, the latter is a more correct measure of productivity performance. So far it has been rarely used in practice, especially at the enterprise level. The French program contracts that have been negotiated between the government and some of its own enterprises have included specific target rates of total factor productivity growth to be achieved.<sup>1/</sup> In Eastern Europe national plans have also specified targets for productivity factor growth (TPFG) at the sector but not at the enterprise level. In developing countries, studies of TFPG even at the industry's level have been sparse. Data quality and the difficulties involved in measuring output and inputs could have been the responsible factors. Some resources ought therefore to be allocated toward remedying these deficiencies.

It has been argued in the preceding sections that three criteria ought to be applied in assessing PIE performance: financial

<sup>1/</sup> Keyser, William, "State Business: Public Enterprise Experience in the EEC", Final report prepared for the Statsforetag Enquiry of the Swedish Department of Industry, Stockholm, August, 1978.

profitability which addresses government concern over budgetary limits, even though it may not reflect the net economic contribution of the enterprise; economic surplus which may attempt to correct for major distortions in actual prices and for costs of non-commercial objectives thus reflecting the true economic contribution of PIE commercial operations; finally, the rate of change in total factor productivity which measures the degree to which resources are used with greater efficiency.

As has been previously pointed out, the difficulties involved in measuring these indicators are by no means negligible; but even if they could be resolved, the question remains how to judge whether PIE operations have been successful or not. One of two methods could be used. The first is to compare PIEs performance to that of private firms which operate in the same industry. This method is not however valid with regard to financial profitability since PIE is not usually expected to behave as a financial profit maximizer, nor with regard to economic profitability due to lack of information on private firms' performance. This method could therefore be applied only to the factor productivity criterion. The second method consists in evaluating PIE against its own previous record. It is a better method insofar as it takes account of the specificity of each enterprise with regard to its learning and growth experience. Regardless of the method used, performance evaluation is however worthless unless it serves to induce improvements. This could be achieved only if the objectives assigned to PIE are unambiguously stipulated, the criteria involved are internalized by it, and if both government and enterprise develop an understanding of the problems of performance evaluation.

D. ASSESSING SOCIAL IMPACT

It must be recognised that there can be two sets of social objectives. The first set is the broader statement of national objectives underlying the national developmental strategy. This set of objectives may or may not apply to particular public enterprises or they may influence public enterprises to varying degrees. Nevertheless, whether they are stated as specific enterprise objectives or not, any contribution which the enterprise will make to the achievement of the broader social aims must go to its credit, and will constitute a contribution to the national pool. For example, the development of backward regions may be stated to be a broad national goal. Clearly such a goal would apply with much greater intensity to a regional development corporation or to an agro-industrial corporation than it would to a national airline. Nevertheless, a national airline can make contributions to regional development, although it is not its primary aim, by providing transportation and communication links connecting the backward area to the metropolitan area.

It is however the second set of objectives which concerns us more directly. This is the stipulated set of socio-economic objectives directly assigned to the particular enterprises and identified as such during the process of ascertaining its corporate identity. There cannot be any uniform set of social objectives for all public enterprises. The specific set of objectives applicable to particular enterprises needs to be separately identified, conceptualised, articulated and implemented.

One cannot provide an all comprehensive set of social indicators. What one can certainly do, however, is to seek a methodology through illustrative cases of the manner in which the social goals can be

identified, quantified and converted into social performance evaluation indicators.

The starting point of such a methodology is the identification of the broader set of national objectives. At a UNIDO expert group meeting on the Role of the Public Sector in the Industrialization of Developing Countries (Vienna, May 1979), an illustrative list of national developmental objectives was enunciated as follows:<sup>1/</sup>

- "to adopt a fully socialistic model of development
- to control strategic sectors of economy
- to provide the requisite economic infrastructure
- to control and manage the "essential services"
- to control the "commanding heights of economy"
- to manage and control "natural" monopolies
- to undertake tasks beyond the capability of private enterprise
- to provide a competitive element to private industry
- to develop backward areas
- to stimulate the advancement of weaker sections of society
- to increase the availability of essential consumer goods
- to generate employment
- to develop technology
- to generate foreign exchange earnings
- to stimulate agricultural development
- to commercialise activities traditionally run as government departments
- to discourage the concentration of economic power
- to utilise more fully economic resources
- to control the exploitation of natural resources

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<sup>1/</sup> UNIDO: Report of Expert Group meeting on the Role of the Public Sector in the Industrialization of the Developing Countries, Vienna, 14-18 May 1979 (ID/WG 298/15, 22 Aug-1979) para. 18.

- to help stabilise prices
- to take over the management of ailing private sector firms
- to develop self-reliance
- to improve income distribution
- to favour or accomplish structural change."

While this list is by no means comprehensive and while the expert group itself stated "those objectives would differ from one developing country to another depending upon historical, political and socio-economic factors....", the list gives one the flavour of the manner in which national developmental objectives tend to be stated. Two impressions emerge from a study of such a list:

- the list ranges from broad, strategic, macro objectives to more precisely stated micro objectives. Thus an objective like "to adopt a fully socialist model of development" or "to favour or accomplish structural change" are clearly the kind of goals which can be acted upon only at the national level. It would certainly be difficult to operationalise such goals at the enterprise level
- the statement of goals tends to be painted with a broad brush. The question which then arises is: "How can one operationalise such objectives?"

It is entirely possible to develop a system of operationalising social and national objectives within the corporate plans of public enterprises, linking their operational objectives to a specific system of performance evaluation based on social indicators.

The methodological stages of such an operationalization procedure would include:

- a more specific restatement of the objective as understood and capable of implementation by the enterprise
- a disaggregation of the possible component elements of the broader objective
- a quantification of targets wherever this is possible
- a description of qualitative targets wherever quantification is not possible
- a counterpart set of questions and yardsticks of evaluation based on such disaggregation.

What is of cardinal importance is that the claim to be achieving social objectives should not be an afterthought (sometimes offered as an alibi for poor financial economic performance), but should be a consciously adopted set of targets. Similarly, the questions and yardsticks to be asked at the time of evaluation should be an intrinsic part of the initial process of clarifying the objectives.

To illustrate this methodology, three cases of operationalising social objectives are presented below

1. to develop technological self-reliance
2. to develop backward regions
3. to promote the integration of women in development.

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NATIONAL  
OBJECTIVE

TO PROMOTE TECHNOLOGICAL SELF-RELIANCE

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STATEMENT OF  
ENTERPRISE OBJECTIVES  
INCORPORATED IN  
CORPORATE PLAN

"While our enterprise will place high emphasis on increased production, improved productivity, reasonable prices and improved quality of our products, we recognize the broader national goal of achieving technological self-reliance. We therefore accept as a major objective of our undertaking the promotion of technological development through our enterprise and we desire to make specific contributions to the country's pool of technological advancement."



DISAGGREGATION OF SPECIFIC  
COMPONENTS OF THE  
CORPORATE OBJECTIVE:

EVALUATION CRITERIA:

- |  |  |
|--|--|
| 1. Creation of an R and D department   | 1. Was an R and D department actually set up and how many persons are working in it?   |
| 2. Allocation of adequate funds for research and development   | 2. What percentage of the enterprise's turnover has been allocated to research and development?  |
| 3. Developing technological skills through training programmes within the enterprise   | 3. What are the in-house training programmes for technological development which have been introduced  |
| 4. Deputation of managers/technicians for advanced training in the strategy of technological development to outside institutions | 4. How many managers/technicians have been sent for advanced training outside?   |
| 5. Development of trouble-shooting units on the shop floor.  | 5. What contributions have the trouble-shooting units made?  |
| 6. A conscious search for import substitution  | 6. What are the specific contributions of the enterprise towards import substitution?  |
| 7. Examination of the increased utilization of domestic raw materials  | 7. What is the nature of the research done on domestic raw materials has it resulted in increased use of national resources and consequent reduction of imports? |
| 8. Unpacking of imported technology  | 8. Which technologies have been purchased from abroad and what is the manner in which they have been unpackaged?   |
| 9. Full utilization of domestic skills through subcontracting  | 9. What is the extent of use of local skills through subcontracting?   |
| 10. Fostering new ideas and methods of work towards improved productivity  | 10. Has the research and development effort produced some new ideas or methods?  |

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NATIONAL  
OBJECTIVE

TO DEVELOP BACKWARD REGIONS

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STATEMENT OF  
ENTERPRISE OBJECTIVES  
INCORPORATED IN  
CORPORATE PLAN

"While the corporate objectives of our enterprise are essentially aimed at the provision of consumer goods needed by the general public for the sustenance of basic human needs, we recognize the broader national objective of promoting the development of backward regions. We therefore accept as a corporate objective the task of making specific contribution towards such regional development through our operations."

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DISAGGREGATION OF SPECIFIC  
COMPONENTS OF THE CORPORATE  
OBJECTIVE:

EVALUATION CRITERIA

1. In selecting the location of our plants we will consciously give preference to location in backward regions

1. How many plants has the enterprise set up?

Which of them are located in a backward region?

Are there any new investment proposals, and if so, are the proposed locations in a backward region?

2. While developing the infrastructure of supporting services needed by our plants, we will make available such services to the local region

2. What are the infrastructural supporting services set up - electric power, water supply, roads?

Are such infrastructural services used solely by the plants or is the surplus being made available to the locality? Quantify the extent of electric power and water so provided. Are the roads being utilised for purposes other than that of plant operations?

3. While promoting measures for the welfare of our workers, we will attempt to extend the facilities so created to the local region

3. What are the welfare services set up for workers - schools, hospitals, health centres, birth control clinics, creches, entertainment. Are these facilities also being extended to persons of the locality?

Quantify the number of non-workers admitted to enterprise schools, hospitals, clinics etc..

4. Through our plants established in backward regions we will generate employment opportunities for local persons

4. How many jobs have been created by the establishment of the plant and how many of these jobs are filled by recruits from the local backward region and how many through "imported" labour?

- |  |   |
|--|---|
| <p>5. We will consciously follow a policy of procuring supplies from the local region to increase income generation</p>  | <p>5. State the extent of supplies of raw materials and other inputs purchased by the plant</p> <p>State the specific quantum of supplies procured from the backward region</p> <p>Indicate percentage of supplies obtained from local region</p> |
| <p>6. We will promote ancilliary activities in small scale industry around our plants in backward areas</p>  | <p>6. Have any ancilliary activities been developed in the shape of linked small scale industries? How many? What is the employment and turnover generated through ancilliaries?</p>  |
| <p>7. We will make positive efforts to prevent any adverse impact of our operations on the local area with particular vigilance on the question of pollution</p> | <p>7. Describe potential pollution dangers due to the installation of your plant</p> <p>Indicate specific anti-pollution measures taken and the cost incurred thereon</p>   |
| <p>8. We will take steps to improve the environment surrounding our plant locations</p>  | <p>8. Describe what specific contributions your plant has made to the improvement of the surrounding environment</p> <p>Have you established any gardens, parks or play fields?</p>   |
| <p>9. We will maintain a live contact with local authorities and extend out managerial and technical support for the solution of local problems</p>              | <p>9. What is the relationship developed with local authorities? What specific contributions have been made by the enterprise to the solution of local problems?</p>  |

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NATIONAL  
OBJECTIVES

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TO PROMOTE THE INTEGRATION OF WOMEN IN  
DEVELOPMENT

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STATEMENT OF  
ENTERPRISE OBJECTIVES  
INCORPORATED IN CORPORATE  
PLAN

" The primary objectives of our enterprise already outlined above are in the field of the production and distribution of electronic equipment and telecommunications. While devoting our primary attention to the building up of technological capability and high standards of production at economic cost, we are conscious of the broader national objective of integrating women into development. Our enterprise therefore proposes to make a conscious effort to contribute towards this national goal and to provide a model to other enterprises by using women as a useful input in our operations and as a necessary part of our human resources."

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DISAGGREGATION OF SPECIFIC COMPONENTS OF THE CORPORATE OBJECTIVE:      EVALUATION CRITERIA;

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- |   |  |
|---|--|
| 1. In our recruitment we will not practise any form of discrimination against women and will provide them equal opportunities for employment.   | 1. What is the total number of employees in the enterprise? What is the number of women employees and what percentage does this represent?<br><br>Has the recruitment of women during the past year improved the percentage of female employment?                                  |
| 2. In our wage and remuneration policy there shall be no discriminatory practices and we shall introduce a system of equal pay for equal work   | 2. Please confirm that wage scales and remuneration are identical for men and women and give satisfactory reasons where it is not.<br><br>What is the percentage of the wage bill paid to women and what relationship does this percentage bear to their percentage of employment? |
| 3. Taking note of the special responsibilities of women towards the family and children, we shall consciously provide special facilities to women to meet these additional responsibilities | 3. What are the special facilities for women - creches, special maternity hospitals, maternity leave conditions?   |
| 4. We will provide special training arrangements for women to upgrade their skills  | 4. What are the specific training schemes designed for women?<br><br>What percentage of the in-house trainees are women?<br><br>Have any women been sent for external training?  |
| 5. We shall encourage the advancement of women in our enterprise to higher levels of responsibility   | 5. How many women have been promoted to managerial ranks?<br><br>What is the highest position held by a woman in the enterprise?   |
| 6. The enterprise will take keen interest in the family welfare of our workers outside working hours  | 6. Describe the enterprise's contribution to family welfare  |
| 7. The enterprise will attempt to provide part-time employment wherever possible to women in the locality   | 7. Describe efforts to provide part-time employment for women. How many? What is the extent of outflow of enterprise funds for this purpose?   |

E. CONCLUSIONS

This chapter has attempted to set out in very elemental terms the basic parameters of an organized system of performance evaluation of public industrial enterprises. The development of a performance evaluation matrix is an exercise which requires to be undertaken individually and separately for each enterprise in each developing country. Any attempt to construct a theoretical model and offer such a model for direct application would be doomed to failure. The essence of the situation lies in the special characteristics of each enterprise demanding a correspondingly special approach to evaluation.

Recent attempts to translate into balance-sheet terms the evaluation of socio-economic performance must be regarded with caution. While they may appear to be a neat solution they would perhaps tend to lose the qualitative character of the social dimensions of public industrial enterprises.

In the last analyses the evaluation exercise must seek to reflect the dualistic character of public enterprises and must account for both their "enterprise" dimension and their "public" dimension.

CHAPTER VIII. ORGANIZATIONAL DEVELOPMENT, CORPORATE PLANNING  
AND INTERLINKAGES - A CASE STUDY OF BHARAT  
HEAVY ELECTRICALS LIMITED (BHEL)

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by

V. KRISHNAMURTHY\*

A. ORGANIZATIONAL DEVELOPMENT

Indian commitment to rapid industrialization can be traced back to the early 1950s. Keeping in mind the growing power needs of the country, the Government in 1955 set up a plant in the Public Sector for the manufacture of heavy electrical equipment in Bhopal. This factory went into partial production in November 1960. Today, it turns out an entire range of power equipment viz. thermal turbosets, hydro-sets, marine turbines for nuclear power stations, power transformers, switchgear, industrial and traction motors, control equipment, rectifiers, capacitors, etc.. It has a capacity to deliver annually 500 MW of hydro-sets, 600 MW of thermal turbo-sets and 4000 MVA of power transforms and several other products.

Subsequent studies undertaken at the time of formulation of the Third Five-Year plan (1960) revealed that it would not be possible for the Bhopal Plant alone to meet the entire demand of power generating equipment in the country. The government, therefore, decided to set up additional plants at Hyderabad and Hardwar.

The Hyderabad plant which was to be set up with Czech collaboration envisaged manufacture of steam turbines and boilers. Subsequently, it was decided to locate the manufacture of boilers separately at Tiruchirapalli.

The management of these undertakings was entrusted to a new Corporation in the Public Sector called the Bharat Heavy Electricals Limited which came into being in November 1964. The High Pressure

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The views expressed in this paper are those of the author, and do not necessarily reflect the views of the Secretariat of UNIDO.

Boiler Plant at Tiruchi was the first to go into production in May 1965, closely followed by the Heavy Power Equipment Plant at Hyderabad in December 1965. The Heavy Electrical Equipment Plant at Hardwar went into production in January 1967.

As envisaged in the Second Five-Year Plan, BHEL started somewhere in the middle of the normal evolutionary phase for such a company. The product-mix was selected by the Government, technical collaboration was obtained to import technology and implement the project, and production was started with the help of the collaborators' experts.

BHEL was seen as an indispensable element in the fulfilment of the country's industrial ambitions. Right from the moment of its inception the government encouraged it to develop a detailed corporate plan.

Various studies were initiated both by external agencies and by the top management of BHEL with the purpose of reviewing different facets of BHEL operations. Such a review could be compared to answering the question "where are we?" The period when these studies were initiated was marked by the absence of any long-term power programme for the country, a mounting criticism of Indian power equipment manufacturers in the external environment and a general low level of morale in the public sector as a whole. The underlying purpose of the various review studies done during this period was improvement in certain management activities which could lead to immediate gains as well as development of an overall pattern of growth of this industry.

The Indian Institute of Management, Ahmedabad was commissioned by BHEL to develop a Management Information System for the Company. Simultaneously, other functional areas like financial management, personnel management, training, etc. were being examined by the committees set up for this purpose by the Bureau of Public Enterprises (BPE) and also the Parliamentary Committee on Public Undertakings. The then Chairman's Office itself had undertaken an in-depth review

of the operations of one division in response to a specific request of the Administrative Ministry.

The Government appointed an Action Committee to examine the operations of selected public sector enterprises. The Action Committee reviewed the operations of BHEL and came up with certain wide-ranging and far-reaching recommendations. These included the merger of BHEL and the Heavy Electrical India Ltd (HEIL) the other PSIE in the electrical equipment industry, (these firms had overlapping functions/products/markets) drawing up of comprehensive programmes to develop these factories to their rated capacity and the appointment of full-time Directors to look after the finance and personnel functions. The Committee had also suggested organisational changes at the unit levels. This included induction of professionals for managerial positions.

The most important task before management was to increase the production and improve capacity utilisation. As desired by the Committee, detailed programmes were drawn up using PERT networks for attaining rated capacities. This involved close interaction between the then Chairman's Office and the manufacturing divisions.

Following the recommendations of the Action Committee, the operations of both HEIL and BHEL came under the purview of the same top management as a first step towards reorganisation. A new Board of Directors took office, comprising representatives from the Administrative Ministry, a Management expert, and full-time Directors for personnel and finance functions.

The introduction of full-time Personnel and Finance Directors was considered essential because it was felt that the poor performance of the public sector was primarily due to unimaginative personnel policies and low integration of the finance function with the executive



wing. This had led to poor industrial relations and low executive morale. In addition, Finance acted as a curb on decision making. BHEL sought to remedy this by evolving and implementing company-wide policies in both these areas through the full-time Directors.

Following the merger, an organisational model had to be found which would make the organisation efficient and effective. Two choices were available. The Company could be structured along the concept of a holding company or as a divisionalised company. While the then Minister for Industry, was in favour of adopting the holding company structure, BHEL considered that the divisionalised structure would be best suited for the consolidation and growth of its operations. There was considerable overlap in the product-mix of various plants. The same product was manufactured at more than one plant with more than one technology. There was a need to strengthen functional capabilities across the Company. Various limbs of the organisation could learn from each other's experiences. These things were possible only when various plants worked in an integrated manner. Therefore, a divisionalised structure was adopted.

The role of the Chairman's office also underwent considerable change. Hitherto, its accent had been on project implementation withing a national planning framework. In its new role, it concentrated on boosting up the production level and co-ordination between the three plants of BHEL and that of HEIL. It realised the need to integrate the technologies, attain higher levels of customer satisfaction and adapt the operations to meet the changing needs of the environment. It realised the need for more comprehensive planning - looking at the corporation as an integrated system. To help in these tasks, groups for planning, commercial co-ordination, finance and personnel were created at the head office.

It was realised that long term industrial peace was necessary for attaining stability in the Company's operations. To put industrial relations on a harmonious footing, one of the earliest actions of the new management was the setting up of an apex joint negotiating committee with representatives from management, the national level trade union centres and the recognised unions at the divisions.

This was also the period when BHEL was interacting with the Planning Commission and other Government bodies, for the preparation of the Fifth Plan. Two important documents were prepared and were considered by the Board of Directors. These tried to put on paper the prospects that lay before the Company for the next few years. These documents took a comprehensive look at the Company's operations and were the corner-stone for future developments.

To achieve co-ordination among the plants as well as for better communication and information-sharing, teams from the Chairman's office were sent to plants and held a series of discussions with the unit executives. The Directors of the Company and key executives from headquarters spent many days in the divisions. The end of the year 1972-73 saw the undertaking of certain assignments by summer trainees from the management schools at Ahmedabad and Calcutta, meant to inject further new ideas in the Company. These projects were on Environmental Analysis, Project Formulation, Market Surveys, Management Information System, Corporate Planning and Technological Forecasting. By choice or design they covered the entire range of activities corporate headquarters have to cater for. These projects laid the foundation for some of the Corporate activities which were taken up later. There was a new awareness in the organisation about the need for modernisation, and for introduction of new, contemporary and relevant knowledge.

Having attained a certain degree of stabilisation in the production performance the next task was to formalise and systemise certain functions of the Company. An attempt was made to integrate the annual budgeting exercise with the long-term objectives of the Company. Key result areas were identified while formulating the revenue budget. This was a step towards the introduction of a comprehensive Programme Planning and Budgetary System. To provide an opportunity for the top executives of the Company to meet periodically and discuss and formulate strategies for the growth and development of the Company, a Management Committee was set up in 1973.

The Chairman's office acted as a catalyst in the Company's information sharing process. A programme was drawn up for periodic conferences of various functional managers. Thus, commercial managers, materials managers, production managers, finance managers, planning managers, etc. got together periodically and shared their experiences, problems, practices, etc..

During this time, the production co-ordination and monitoring functions of the Chairman's office had evolved into a full-fledged Corporate Office. Policy guidelines and procedures manuals were prepared to bring in further uniformity in the operations.

A picture of Corporate objectives and the strategies to achieve these objectives started emerging. The stage was set for putting down these in a document and seeking sanction and approvals from the Government. Top management in BHEL backed the effort to draw up the outline of a blue-print for the future.

1974 saw the publication of a Corporate Plan which summarised the perceptions of the management, and outside experts. This plan was submitted to the Government and was circulated to each executive in the company.

With the active support of the government, this document was to become a blue-print for all the major developments that have taken place in BHEL since then. The Corporate Plan called for, among other things, certain organisational measures and for this, studies were made of comparable companies abroad. The comments of various divisions were received, compiled and reviewed at the Corporate Office. These became an important input in the implementation of the Corporate Plan.

As a first step towards long term planning, the time horizon of the revenue budget exercise was extended from one to two years and broad objectives of the divisions for the following two years were established. This also provided a sort of linkage between the revenue and capital budget exercises. A team from the Corporate Office went to the various plants and discussed their revenue budget. At the end of these division-wide discussions, an integrated revenue budget for the overall operations of the Company was prepared in the Corporate Office.

Studies leading to the Corporate Plan had clearly identified that the key resource of BHEL was Technology - applied in a wide sense. To remain contemporary in a fast-changing technological environment, BHEL's engineering base has to be strengthened considerably. To draw up a plan of action, a committee comprising senior executives of BHEL was constituted in October 1974. The Chairman of the Company headed this committee. It came up with a plan of action by April 1975. Simultaneously, efforts were initiated to induce Indian scientists and technologists from abroad to join BHEL. Some of the best talent which BHEL could attract in the following years was a result of these efforts.

The implementation of the reorganisation plan drawn up by the

Engineering Committee began in 1975-76. Following its successful execution, it was considered necessary to have a similar review of marketing and a Marketing Committee was constituted on similar lines. In addition, a new corporate group was created to provide staff support to the Corporate management in this area. This sort of experimentation in fact led to the planned and step by step emergence of what may be called the 'Devices for Aiding Integrated Planning' in BHEL.

Besides having corporate level functional committees, another device adopted was the creation of cross-functional teams responsible for the long-term plans and strategies for each product area. These teams were known as the product committees.

A number of service functions that were earlier integrated with the manufacturing divisions were put under separate divisions created for the purpose. Thus, a process of differentiation was initiated in the operations of the Company to concentrate development efforts in the individual functional areas. At the end of 1975-76, BHEL comprised, besides the four main manufacturing plants at Hardwar, Bhopal, Hyderabad and Tiruchi, about 15 service divisions also. In addition, three new major factories were in the process of being set up at Jhansi, Hardwar and Tiruchi.

The rich experience gained by the Company from its association with the domestic power sector for 15 years had built up the expertise and confidence needed to make a significant breakthrough in the international arena. A modest beginning had already been made in the early seventies. Some of the steps which were taken included setting up of an Export Division, participation in World Trade Fairs and exhibitions and establishing commercial contacts with potential customers. Export production in 1977-78 touched a figure of Rs. 810

million (about 15% of the total sales). Some of the prestigious orders won by the Company included a Rs. 970 million order from Libya for a turn-key setting up of 2 x 120 MW power station, a Rs. 95 million order from New Zealand for the supply of ten hydro generators aggregating to 544 MW and a Rs. 650 million order from Saudi Arabia for the Wadi Jizan Electrification Project.

The production improvement programmes emphasised prior to and after the publication of the Corporate Plan resulted in an enormous growth in BHEL operations. But, this growth brought in its wake many problems. The operations became highly differentiated and spread over a large number of locations. This put great strain on the top management's time and effort.

This led to organisational restructuring in April 1976. Earlier, the General Manager of the division was responsible for all the functions and activities simultaneously. In the new organisation, the activities of the divisions were grouped into i) engineering and commercial; ii) operations; and iii) administration. Each of these groups was headed by a General Manager. An Executive Director and Group General Manager (ED & GGM) was appointed to head the division. This was more or less the system that was adopted uniformly at all the major divisions with certain local adjustments/modifications. The ED & GGM was to devote most of his time and effort to the long range planning of the products, divisions and human resource assigned to him. Conceptually, a division was seen as a developer of the two key resources: technology and human potential for the functioning of an efficient conversion system called 'Operations.' In contrast to prevailing notions - the personnel function was elevated and the finance function made the responsibility of the chief of operations. GM (Administration) was responsible for human resource development and finance.

This reorganisation also helped in reducing the number of senior executives directly reporting to the Chairman and Managing Director. Corporate Office was further strengthened with the appointment of Director (Engineering) on the Board. The Engineering and Research and Development oriented divisions were put under his charge.

An Executive Committee was set up as the highest decision-making body in the Company. It replaced the earlier Management Committee. Existing organisational devices like multi-disciplinary forums on various functions, products, projects, etc. were streamlined.

The growth in operations led to an increase in the number of executives at all levels from about 1600 in 1972 to about 6000 in 1976. The timely flow of information from one level of management to the other became critical. In order to communicate the Corporate Plan and spread the planning culture in the organisation, and also to create an awareness of various planning techniques and methodologies, seminars, conducted in the form of workshops, act as a forum for taking a collective look at various aspects of BHEL's business, especially the growth patterns for BHEL products. To develop better and professional managers at middle management level, the Company has set up a Management Development Institute. It conducts regular programmes in various areas of management.

#### B. CORPORATE PLANNING IN BHEL

Planning emphasis in BHEL has changed with the different phases of the growth of the organisation. Planning activity has evolved in keeping with the growth pressures, demands of the business environment and changing complexion of organisational activity. For the purpose of

this study, three distinct phases can be identified in the growth of the Company.

#### Phase I (1964-69)

The first task before the Company was the establishment of manufacturing capability. This involved commissioning of additional manufacturing facilities, transfer of technology from the collaborators to BHEL and striving towards achievement of rated capacity. The planning activity for this purpose involved drawing up of detailed plans, preparing annual budgets to meet construction targets and monitoring and review of their implementation.

Environmental changes during this phase were rapid. Technologies were changing. Unit sizes were going up. BHEL could not respond to these changes quickly. New investments were required to meet these changing requirements. People doubted the wisdom of these investments, sometimes.

#### Phase II (1967-74)

The late 1960s were a period of recession in the Indian Engineering Industry. BHEL had established a manufacturing capacity, but this capacity was underutilised. The demand for power equipment was not steady. BHEL did not know how to respond to such a situation. So far, all its efforts had been derived from National Plans and implemented with the help of the collaborators. For the first time, the organisation felt the need to investigate growth opportunities.

As a result of organisational cogitation, a set of objectives was formulated, a corporate identity was established and resource



plans were prepared to strengthen organisational capabilities. Salient amongst these were the 'Growth Plan for the Tiruchi Unit', setting up in-house facilities for meeting material requirements like castings and forgings, seamless steel tubes, ancillary development etc.. At the same time, the business emphasis of the Hyderabad plant was undergoing a change. Its product-mix was changing from power equipment to industrial equipment in response to changing needs of the environment.

### Phase III (1974-79)

During this period BHEL attempted to enhance its capabilities and enlarge the scope of its total business. It possessed technology to manufacture products like motors, control equipment, turbines, boilers, compressors, valves, etc. which were used not only in power stations but could also be used for industrial and transport applications. For power stations, too, BHEL could enlarge the scope of its activities to offer total turnkey service. This would, of course, imply developing in-house system-engineering and power project capabilities, but the Company felt confident that it would be able to do so.

Based on its own analysis and perception of the environment, needs of the organisation and changing patterns of business, the Company decided to formulate a set of objectives which would provide the direction for its future growth. These are -

- a. To achieve a dominant position in the engineering, development, and manufacture of electrical and mechanical equipment for generation, transmission and utilisation of energy and electric power.
- b. To carry on a growing and profitable worldwide business in

electrical/mechanical equipment for the generation, transmission and utilisation of energy and its related products, systems and service for power stations, industry, agriculture and transport.

- c. To become a leader in research and development in different fields of engineering and technology in areas of work relating to the business and to ensure a steady flow of new products, process, services, methods, organisational patterns and relationships.
- d. To ensure sound commercial policies, customer acceptance and satisfaction for the Company's products and services.
- e. To design, manufacture and market all Company's products and services at good quality and fair prices.
- f. To build public confidence for products and services bearing the Company's name and brands through sound competition, advertising, promotion, selling and promotion.
- g. To evolve a participative style of management which would ensure good working conditions and job satisfaction to all employees.
- h. To ensure continuous development of competent managerial personnel and make best use of both human and material resources of the business.
- i. To design organisational structure with clearly enunciated objectives and policies where freedom to function and flexibility to perform would be ensured.
- j. To provide a reasonable and adequate return on investment and generate adequate internal resources to finance growth.
- k. To give full consideration to the environmental impact of all products and processes developed, designed and built by BHEL.

India's Sixth Plan envisages the creation of an additional generating capacity of 22000 MW by 1984. BHEL would have to ensure delivery of equipment which would triple the power capacity in a span of 10 years between 1974 and 1984. The transmitting capacity has to keep up with the growth in power generation. This will mean a considerable increase in the demand for transmission equipment.

Besides power equipment, BHEL also manufactures a wide range of industrial equipment including Electric Motors, Transformers, Switchgear, Rectifiers, Capacitors, Railway Traction Equipment, Centrifugal Compressors, Process Boilers, Dust Collectors, Industrial Ventilators and Valves. These are used in Petro-chemical and Fertiliser Plants, Oil Refineries, Mining, Sugar, Steel and Paper Industries, and by the Railways. BHEL has now reached a strong position in the supply of these products.

BHEL's role in these areas is likely to expand and in future it will have to take up a greater share of engineering work for industrial projects, especially for drive systems in Steel, Metallurgical and other industries. In order to expand its role, management believes that important organisational changes are necessary. According to BHEL's operating plan.

"The present integrated structure of BHEL management has to give way to a functional orientation consequent on the considerable expansion expected at the manufacturing organisations to cater to increased volume of demand.

Rationalisation and standardisation of the products to be manufactured at BHEL is an immediate necessity. It calls for reorganisation of facilities and locations to optimise the output from the different manufacturing centres at minimum cost to customers."

First steps taken to implement the new Corporate strategy include effort to explain to all the employees the implications of the changes envisaged in the Corporate Plan. This was followed by regular

interaction and discussions at all levels before any changes were introduced. The involvement of the mass of employees in discussing the pros and cons of major policy changes before their introduction has proved very effective in BHEL. In technologically complex areas, many good suggestions have emerged from these discussions and these have been incorporated in the final decisions.

It was realised that the then existing organisation would not be able to cope with the enlarged scope of the Company's objectives and operations. There was need to establish new divisions and reorganise some of the existing functions to provide an intensive and directed thrust to the operations in these functional areas. New divisions such as Corporate Research and Development Unit, Power Projects and Services Division, Marketing and Sales Division, Energy Systems and New Products Division, Projects Engineering Division and Overseas Projects Division were created to effectively fulfil the objectives of the Company.

One of the major achievements of the Corporate Plan has been the complete reorganisation of BHEL's total engineering management structure and orientation. It has been realised that an engineering-based company can never hope to reach the desired level of effectiveness without a solid base of specialised knowledge in all aspects of product design and in all related areas of scientific expertise. In-house R & D is necessary not only to establish new products and systems and to improve existing ones, but also to maximise the assimilation of know-how purchased from outside.

The Corporate Research and Development Unit provides the infrastructure, the laboratories and the expertise for basic research. The Projects Engineering Division undertakes the detailed design of Power Stations and Power Systems to ensure the compatibility of products

with the needs of the Power Systems.

The Energy Systems and New Products Division was established to catalyse the development of new products and futuristic systems including new coal utilisation systems and non-conventional energy sources. In addition, each product was allotted its own engineering centre for detailed engineering, product related improvement, research and development and for field engineering services. A regular monitoring of the entire technology absorption, assimilation, adaptation and improvement process was started and became a part of the engineering management system.

Similarly, to augment the organisational capabilities in marketing BHEL products both in domestic and foreign markets, three new divisions were started - Marketing and Sales Division, Regional Operations Division and Export Division. Another division called Power Projects and Services Division was established in order to provide erection and commissioning and after-sales service to the customer. This division undertakes turnkey responsibilities for power stations in India.

None of these organisational changes would have been effective without the simultaneous changes which were introduced in the personnel policies and financial management systems. The promotion policies, with emphasis on the growth of the individual, helped specialisation. Training and advanced education programmes have been made continuous inputs to all levels of employees to increase their technical expertise, and management development courses were widely used to improve their managerial effectiveness.

The financial management systems established effective mechanisms for the delegation of authority and simplified procedures to promote quick decision-making. Flexibility in operation was combined with

strictly-defined responsibility and accountability. Reporting and information systems were established to keep the management fully and regularly informed about the operational status at all the divisions.

Another major step taken by the organisation towards improving its effectiveness through better utilisation of the resources, was rationalisation of diverse design philosophies. While a phased-out programme for consolidating the manufacture of these products at 'one centre' is still in the embryonic stage, the engineering and development work for each of these products has been brought under the responsibility of 'one centre'. The best features of all available designs have been utilised to establish BHEL designs for products. In all cases, a detailed analysis of feedback data from the field is continuously carried out to modify and improve the original designs to make them perform under Indian conditions.

A programme to modernise the manufacturing processes as well as the plant and machinery was taken up at all the units, in order to update the technologies which had become obsolete. With growing expertise, in the organisation and with a proven record of achievements, it was possible to discard licences which were not considered satisfactory and enter into collaboration with more advanced companies. For example, BHEL entered into a collaborative agreement for manufacture of boilers with Combustion Engineering of the USA even when its existing collaboration with Skodaexport of Czechoslovakia had not yet expired. Collaboration agreements covered not only design details but also the transfer of know-how, joint design development and joint R & D projects with full BHEL participation.

The growth plan for the period 1978-83 envisaged BHEL turnover to reach Rs. 12,000 million (approximately \$1.5 billion) by 1983, a hundred per cent increase over the 1979 level. This, together with

the turbulent environment in which the Company found itself, had put tremendous pressure on the organisation to develop an entirely new style of management. Keeping in view the rapid rate of technological obsolescence, increasing competition in the domestic as well as export markets and rising uncertainty regarding general business conditions, it had become imperative for the organisation to develop an ability to cope with change, modernise and expand its manufacturing base, update the technologies, give added thrust to its marketing operations, develop strategic management capability, enhance information processing capability, and introduce contingency planning in all areas of business operations in the organisation. Steps have already been taken in this direction and it is hoped that the organisation would be able to meet the challenges of the future with the enhanced planning capability which is being introduced in the organisation.

C. INTERLINKAGES

As an enterprise, BHEL's environment comprises of:

- . Share-holders (viz. the Government)
- . Markets, customers
- . Industry, competitors
- . Trade unions, workers
- . Financial institutions, banks
- . Regulatory agencies for licensing
- . Society at large.

The Government tends to dominate BHEL's environment. It is an owner, customer, supplier and competitor in addition to playing the role of regulatory agency. BHEL's major customers are State Electricity Boards which are Government Departments. Its major suppliers include

Steel Authority of India (SAIL), Hindustan Copper, Minerals & Metals Trading Corporation (MMTC), Hindustan Machine Tools (HMT) etc. which are public sector enterprises like BHEL. In the early 1970s prior to merger, the only competitor of BHEL was Heavy Electricals India Limited (HEIL), another public industrial enterprise. Some of the present competitors include New Government Electric Factory (NGEF), Bharat Heavy Plats and Vessels (BHPV), Electronic Corporation of India Limited (ECIL), Bharat Electronics Limited (BEL) etc. all public industries. BHEL has to get all its plans approved by the Government; which allocates the resources as well as guides its choice of business. In addition, Government monitors its performance.

As noted earlier planning in BHEL is dove-tailed with the National Planning process. While the assumptions, objectives and programmes outlined in the National five year plans influence BHEL in its planning, BHEL's own entrepreneurial activity tends to influence the National planning process. Forums such as the working group on electrical equipment industry, constituted by the Planning Commission, where BHEL representatives sit with representatives of various governmental agencies, other enterprises both in public and private sector, and hold discussions form an important input in the preparation of plans. There is considerable scope for entrepreneurial planning by BHEL within the scope of the National Plans and in addition to them.

Government's concern with respect to plans of public sector enterprises is mainly in the area of investments, collaboration agreements, manpower, etc.. For example, there exists a fairly elaborate structure for the approval of Investment Proposals of public sector enterprises. The agencies involved in this process include the Administrative Ministry (Ministry of Heavy Industry for BHEL), the Bureau of Public Enterprises (BPE), the Public Investment Board (PIB),



Project Appraisal Division (PAD) of the Planning Commission, Finance Ministry and the Union Cabinet. An Investment Proposal is first scrutinised by the Administrative Ministry and its Finance Wing. If the Proposal is in excess of a certain fixed amount (Rs. 50 million in the case of BHEL), it is forwarded to the PIB for an initial appraisal. The PIB consists of high level representatives of Finance Ministry, Planning Commission, PBE and the Administrative Ministry. If the Project is approved, the public enterprise is asked to submit a feasibility study. The feasibility study is circulated to the Finance Ministry, the BPE, the Planning Commission, etc. and a report regarding the comments of these is forwarded to the PIB along with the feasibility report. If the PIB approves the feasibility report, the proposal is then sent to the Union Cabinet for approval. Once the Project is cleared by the Union Cabinet, a detailed project report (DPR) is prepared for implementation of the project.

Conflicting interests of various groups come to the fore during the preparation and scrutiny of the investment proposal. The Investment Proposal for the public enterprise reflects its own organisational objectives. The Government perspective may be influenced by the National Plan priorities. For example, BHEL's Corporate Plan envisaged diversification into consumer electricals. This was not acceptable to the Government even though such products are an important part of the product-mix of most of the international competitors of BHEL.

Similarly, in the early 1960s, when new manufacturing units of BHEL were being set up, the Government decided that one major plant should be located in the Northern state of Uttar Pradesh and the other in either Andhra Pradesh or Tamilnadu. Government also desired that the new units should be set up in industrially backward areas. Thus, plants were set up at Hardwar, Hyderabad and Tiruchirapalli although

infrastructure facilities were better in some other places.

Another area of Government control over the public sector enterprises lies in the appointment and promotion of senior executives. Board of Directors of a public sector enterprise are appointed by the Government. The Board comprises of both external and internal directors. Some of the external directors are from various wings of the Government. Typically, BHEL Board includes a representative of the Department of Heavy Industry, Finance Ministry, Energy Ministry and the State Electricity Boards. For appointment of full-time Directors, Public Enterprise Selection Board (PESB) interviews and recommends the candidates to the Administrative Ministry. The Selection Committee includes the Secretary of the Administrative Ministry and the Director General of the BPE. The Chairman of the Company sits on the Selection Committee for second level posts. BPE acts as the Secretariat for PESB. The appointments Committee of the Cabinet (ACC), which is headed by the Prime Minister and includes the Home Minister and the Minister of the concerned Department, notifies the appointment of the Chief Executive and functional/whole-time Directors.

The selection of General Manager is done by a committee formed by the PSEB. Members of this committee include the Chairman and Managing Director for the public enterprises, outside experts and a representative of the PESB. Recruitment of managers at the level below that of General Manager is done by the enterprise itself.

During the early 1970s, the Financial Adviser and Chief Accounts Officer (FA and CAO), for the individual units, used to be appointed in consultation with the Finance Ministry. In addition to his normal duties as the Chief of Finance in the unit for which he reported to the top management of the Company, he also performed a 'watch dog' function on behalf of the Finance Ministry. BHEL has moved away from

this pattern, however, and appointment of the Finance Manager in the Company is now a decision of the Company management.

Government also plays a part in influencing investment choices. For example, following the oil crisis, when India entered the field of oil exploration, there was a sudden demand for oil rigs. While long term demand for this product was uncertain there was an urgency with respect to the immediate demand. BHEL offered to help and was entrusted with this responsibility even though it had only a limited product range and technical capabilities.

Another example can be given of divestment of a highly profitable product. BHEL business in utility and industrial boilers enjoys an extremely good market both in India and abroad. It was also a highly profitable product. BHEL gave away this product to another public enterprise under the Department of Heavy Industry.

Even in case of utility boiler, BHEL had to share its business with another enterprise. BHEL boilers were posing a serious threat to its only competitor, a company in the private sector. It offered to pass on some of its own orders to this company to ensure a minimum capacity utilisation of the privately owned organisation.

In 1977-78 a comprehensive exercise was initiated for product rationalisation between various public sector enterprises under DHI as a sequel to sporadic efforts by BHEL in this direction. Some of the public enterprises which had not been doing well, became a direct beneficiary of this exercise as BHEL sub-licensed them to take up the manufacture of some of its highly profitable businesses.

BHEL has always been keenly aware of its role as a premier public industrial enterprise. It has shared both its business and resources with other public enterprises. Its managers and its management systems, are playing an important role in the management of

various other public enterprises. BHEL is perhaps the largest donor of its managers to other companies today, and quite a large number of senior executives in other PIEs have come from BHEL.

The BHEL Corporate Plan of 1974 was widely acclaimed as a watershed in the history of public sector in India.

Even though it was purely an internal exercise of the Company and there was no requirement from the Government for its preparation or approval, BHEL on its own decided that Government as its shareholder should be informed of its growth plans. When the formal document was sent to various agencies including Ministry of Heavy Industry, and BPE, it became an instant success with them. The then Director General of the Bureau of Public Enterprises, took keen interest in the Plan and wrote to all other PIEs to learn from BHEL's Corporate planning exercise and prepare their own respective Corporate plans. Despite its confidential nature, BHEL gave away copies of its Corporate Plan to a large number of PIEs and helped them to prepare their own Corporate Plans. Some of these assignments amounted to full fledged consultancy service to these enterprises.

As a public industrial enterprise, BHEL has, many a time, acted as an extended arm for fulfilling Government's development objectives. It has conducted techno-economic as well as socio-economic surveys and prepared growth plans at the sectoral, regional and national levels. Some of its major projects in this area include developing industrial development plans for the eastern state of Orissa and for Nepal; conducting a techno-economic survey for the Geological Survey of India; setting up a joint venture company in Libya with the Libyan Government and participating in the working of inter-government joint commissions.

BHEL's relationship with the government and other public and

private agencies are monitored at many levels.

Public accountability of BHEL is mediated through Parliament. Any member of the Parliament can ask the Government about any aspect of BHEL's performance. In addition, there are Parliamentary Committees which review BHEL's performance from time to time. While the Committees on Public Undertakings (COPU) makes a direct review of BHEL's performance, the Public Accounts Committee (PAC) reviews the performance of the Ministry and in doing so, reviews BHEL's performance.

BHEL is also accountable to DHI and to some extent to BPE. It sends regular reports to both DHI and BPE. In addition, BHEL is subjected to Governmental audit. There is a representative of the Finance Ministry on its Board who oversees that the Company follows the financial policies and the guidelines laid down by the Government. A similar function is discharged by other Government nominees on the Board in their respective areas. BHEL consults Government agencies in formulating major strategies like technology import, export operations, new location for its factories, industrial relations, aspects of compensation packages. Agencies which get involved during various stages include BPE, DHI, the Finance Ministry, PIB, the Public Enterprises Selection Board (PESB), the Foreign Investment Board (FIB), the Department of Industrial Development in the Ministry of Industry, the Directorate General of Technical Development (DGTD), the Department of Science and Technology (DST), the Council for Scientific and Industrial Research (CSIR), the Department of Economic Affairs (DEA), the Department of Electronics, the Department of Power, and the Central Electricity Authority (CEA). In addition, all other PIEs which may have an interest in specific proposal are kept informed or consulted by the Government before taking decisions.

BHEL has taken pains to communicate its plans as well as

achievements to the government. It went out of the way to keep the Government informed even when there was no formal requirement from the Government for doing so. Some of the monitoring and control systems which, today, exist in the Government are, perhaps, based on the initiative taken by BHEL.

Some of the other PIEs also have done well in the Indian heavy industrial sector. But, they have always insisted on complete autonomy. Their plans and achievements have been their closely guarded secrets. A communication gap has sometimes emerged between them and the Government. Such a situation only hinders growth. There are delays in approvals and sanctions because the parties concerned have to understand each situation de novo. Many times, lack of total perspective can lead to unfavourable response to individual proposals.

It is difficult to say what prompted BHEL to adopt the approach it took at the time when the Indian public sector was still in its nascent stage. BHEL picked up professional management ideas and techniques, used them in its own operations and also passed them on to the Government. For example, techniques like PERT and MIS were introduced by BHEL to report its performance to the Administrative Ministry, BPE and the Planning Commission. Today, they are widely used by these agencies in monitoring and control of all new projects.

BHEL at its inception was concerned with the macro-economic programme; it gradually matured into a professionally managed company, learnt to manage its linkages with formal administrative agencies in its environment and became a major instrument in the economic development of the country. So far, it has remained aloof from the political processes. The next stage may see the politicisation of this organisation. Like the ENI group in Italy during the times of Mattei,

RHEL may also come to wield political power, as much as it may be influenced by it. It may become more 'public' than 'enterprise' - while goals of economic development demand that it be more 'enterprise' than 'public'.

Annex: List of UNIDO Studies on the Role of the Public Industrial  
Sector in Development

- a) Studies prepared for and papers presented to UNIDO's expert group meeting on the Role of the Public Sector in the Industrialization of the Developing Countries, Vienna, 14-18 May 1979

LIST OF DOCUMENTS

ID/WG.298/1	Provisional agenda and work programme
ID/WG.298/2	The public sector and industrial development UNIDO secretariat
ID/WG.298/3	The Austrian model of its nationalized industrial sector F. Ullmann
ID/WG.298/4	UNIDO's activities related to the public sector during 1978 and early 1979 UNIDO secretariat
ID/WG.298/5	The public enterprise as an economic policy instrument in Mexico René Villarreal and Rocío de Villarreal
ID/WG.298/6	The role of the public sector in the industrialization of the developing countries; an issue paper Praxy J. Fernandes
ID/WG.298/7	Public enterprises and industrial development. An analysis of the Pakistani experience Abid Husain
ID/WG.298/8	The public sector and industrial development in Sri Lanka M.R. Prelis
ID/WG.298/9	Role of the public sector in promoting the economic and industrial development of developing countries Pavle Sicherl
ID/WG.298/10	Some issues in organization and management of public industrial enterprises in the African region; a summary E.H. Abdel-Rahman
ID/WG.298/11	Control and management of public sector enterprises; some notes and recommendations György Varga
ID/WG.298/12	List of participants
ID/WG.298/13	List of documents
ID/WG.298/14	Annotated provisional agenda
ID/WG.298/15	Report



Conference room papers

Number

- 1<sup>1/</sup> -
- 2<sup>1/</sup> Micro-economic aspects of public enterprise in Asia; a comparative study  
Il Sakong, Korean Development Institute, Republic of Korea, sponsored by the International Development Research Centre (IDRC)
- 3<sup>1/</sup> Control structures and management of public enterprises in Asia, IDRC
- 4<sup>1/</sup> Extracts of "Organization, management and review of public enterprise research network in Asia"  
A.T.R. Rahman
- 5<sup>1/</sup> Extracts of "Decision making in the public sector: a case study of Swaraj Tractor"  
V.V. Bhatt
- 6 Ways and means of strengthening the state sector in developing countries  
O.D. Ulrikh
- 7 Some observations on the management and evaluation of public industrial enterprises in developing countries  
N.S. Choudhary
- 8 -
- 9 Rationale and role of the public sector in industrial development with special reference to Bangladesh  
Sulaiman Chaudhury
- 10 The role of the public sector in the industrialization of Development countries with special reference to United Republic of Tanzania  
G.F. Mbowe
- 11 Some issues in organization and management of public industrial enterprises in the African region  
E.H. Abdel-Rahman
- 12 The role of the public enterprises in the process of technology transfer and its adaptation  
UNIDO secretariat

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<sup>1/</sup> Not available for distribution.

- b) Studies prepared for and papers presented to UNIDO's expert group meeting on the Changing Role and Function of the Public Industrial Sector in Development, Vienna, 5-9 October 1981

LIST OF DOCUMENTS

- ID/WG.343/1 Public industrial enterprises in developing countries, an issues paper  
Praxy Fernandes
- ID/WG.343/2 Organizational framework, institutional relationships and management of public industrial enterprises  
Muzaffer Ahmad
- ID/WG.343/3 Conflicting paradigms: the evaluation of public industrial enterprises as agents of national development  
Javed A. Ansari
- ID/WG.343/4 Macroeconomic role of public enterprises in the development process: the Mexican case  
Rocío de Villarreal, René Villarreal
- ID/WG.343/5 The role and function of the public sector in industrial development in the European centrally planned economies  
Zoltán Román
- ID/WG.343/6 Structural changes in the Austrian public industrial sector  
Friedrich Ullmann, Renate Meissl
- ID/WG.343/7 The role of the public sector in the industrialisation of African developing countries  
Tony Killick
- ID/WG.343/8 (UNIDO/IS.364) A survey of the comparative roles of private and public industrial enterprises - a case study of Pakistan  
Abid Husain
- ID/WG.343/9 Bharat Heavy Electricals Limited (BHEL) - a case study  
V. Krishnamurthy
- ID/WG.343/10 Comparative study of impact of public and private manufacturing sectors in selected developing countries  
Javed A. Ansari
- ID/WG.343/11 The public manufacturing enterprise in the developed market economies  
Javed A. Ansari

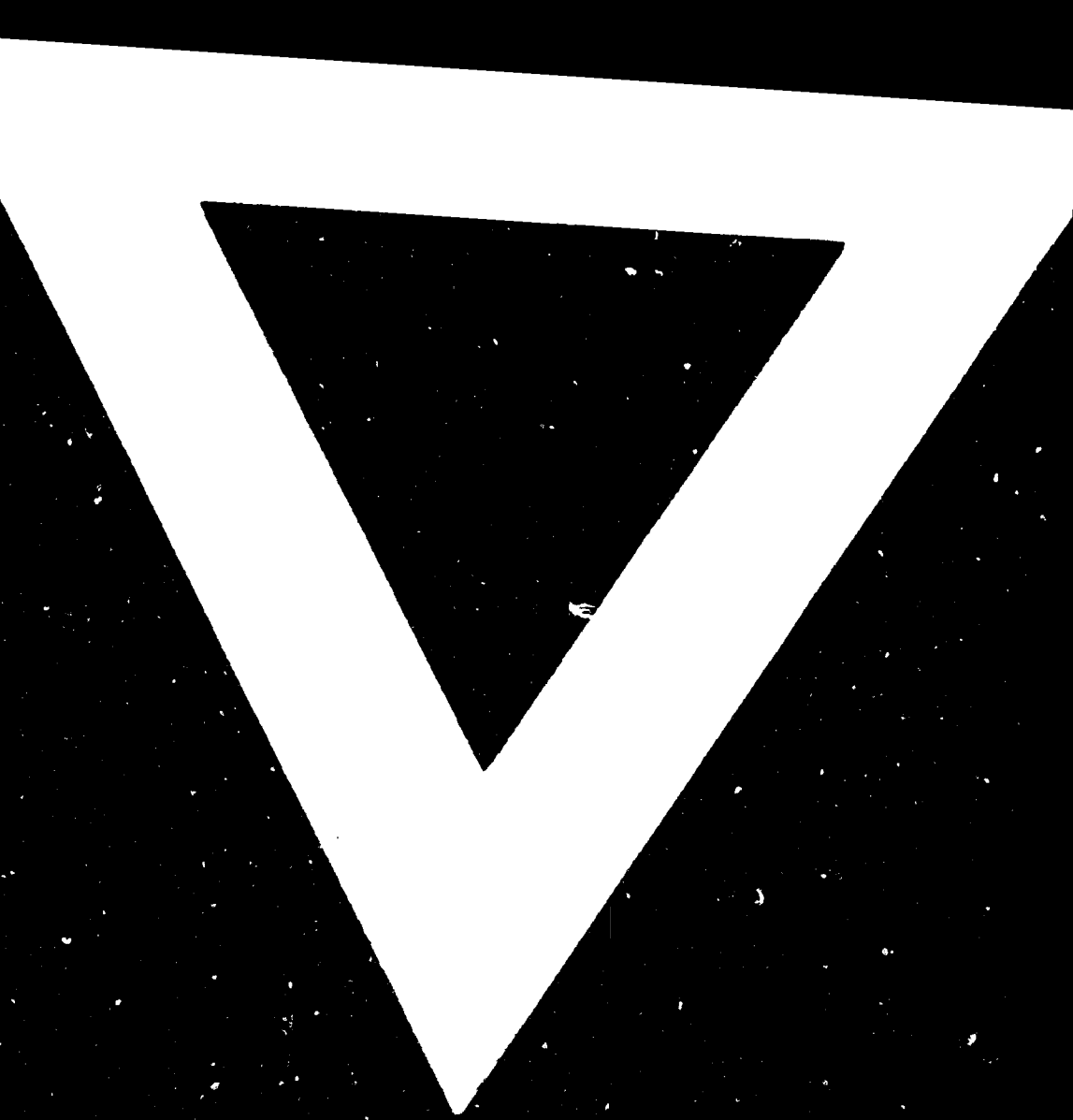


- No. 7                   **The role of public industrial sector in Nigeria's development**  
(UNIDO/IS.363)                   Udo Udo-Aka, Director General, Center for Management Development, Lagos, Nigeria
- No. 8                   **Evaluation of performance of industrial public enterprises: criteria and policies**  
(UNIDO/IS.382)                   Glenn P. Jenkins, Institute Fellow, and Mohamed H. Lahouel, Researcher, Harvard Institute for International Development, Harvard University, Cambridge, Mass., United States of America
- No. 9                   **The public industrial sector in the ECWA region**  
                                  **ECWA secretariat, Beirut, Lebanon**
- No. 10                  **Public enterprise - the interlinkage issue**  
                                  Praxy Fernandes, Chief United Nations Adviser, International Center for Public Enterprises in Developing Countries (ICPE), Ljubljana, Yugoslavia
- No. 11                  **An approach to performance evaluation of public industrial enterprise**  
                                  Praxy Fernandes, Chief United Nations Adviser, International Center for Public Enterprises in Developing Countries (ICPE), Ljubljana, Yugoslavia

c) Other UNIDO studies and reports

- ID/B/238                Role of the public sector in industrial development, the public sector and the industrial development of the developing countries, report by the Executive Director (28 February 1980)
- UNIDO/IS.349           The role of the public industrial enterprise in Sri Lanka (18 October 1982)
- UNIDO/IS.355           Role of the public sector in the industrialization of Pakistan (18 November 1982)
- UNIDO/IS.357           The role of the public industrial enterprise in Brazil (7 December 1982)
- UNIDO/IS.358           The role of the public sector in the industrialization of the United Republic of Tanzania (7 December 1982)
- UNIDO/IS.363           The role of the public industrial sector in Nigeria's development (14 December 1982)
- UNIDO/IS.364           A survey of the comparative roles of public and private industrial enterprises - a case study of Pakistan (21 December 1982)
- UNIDO/IS.365           Public sector industrial enterprises in Bangladesh (5 January 1983)
- UNIDO/IS.367           Role of the public industrial enterprises in India (11 January 1983)





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