TOWARDS RESTRUCTURING THE TELECOMMUNICATIONS SERVICE INDUSTRY IN JORDAN

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ABSTRACT

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Faysal Abdel-Razzaq Al-Hyari

The Jordanian Government is currently considering the process of privatising the Telecommunications Corporation, since it is accused by the Government, of inefficiency and poor performance. This study presents the results of research into the question of what evidence there is to suggest that the Telecommunications Corporation is inefficient and not performing well in its present status as a public enterprise, and why privatisation should improve efficiency.

The study also seeks to establish the best policy option available to policy makers in Jordan with regard to the Telecommunications Corporation in the light of worldwide trends of change in telecommunications policy. This study argues that privatisation should be assessed in terms of its origins, motives, stated objectives and its effect on economic efficiency. For performance evaluation, two main approaches are employed, in addition to many performance indicators and sub-indicators. A summary, concluding remarks and agenda for reforming public enterprises is also provided.

To the many who made it all possible,
especially to my parents and my family for
their appreciation and love.

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CHAPTER 1

Introduction

Since the 1970s, the world of telecommunications has undergone a wide range of rapid developments, which have gradually forced the traditional ideas of telecommunications to change. These developments, which have shown a marked acceleration in the 1980s, have been driven by the increasing information requirements of large business users and governments, the use of information in controlling costs and the importance of information as a factor in improving competitiveness. Thus, it can be said that we are entering an age in which information is becoming the cornerstone of the economy, and telecommunication is becoming an ever more significant social infrastructure.

The telecommunications and information revolution of the past two decades, which has drawn principally for its sustaining power on the emergence of cheaper ways of producing existing goods and services, wholly new goods and services and the vital synergism afforded by the ongoing convergence of telecommunications and data processing, has created the need to reform the basic institutional structure of the industry. As a consequence, major structural changes have affected the telecommunications industry and authorities concerned in the past few years. Technological development, however, has played the essential role in facilitating these changes which have

encompassed technology, regulatory framework, market structures and industry output.

Traditional telecommunications monopolies are being restructured and in some cases even dismantled. A free play of market forces is more and more coming to be seen as necessary to speed up the creation of new services, taking advantage of the latest advances in technology. Governments are weighing the implications of efficiency arguments, the need for a rationalization of the telecommunications equipment industry and the necessity to meet specialized business user service requirements, while continuing to extend and upgrade the universal telephone service.

The process of institutional and structural change in the telecommunications industry has been profound in recent years in the United States, Japan and the UK. Changes have occurred in other countries but not to the extent of these three countries. However, changes in the former three countries were of different degrees, different forms and reflect differences in national structure and have been undertaken by these countries for different reasons.

The world-wide trend towards reshaping traditional telecommunications policies has not left Jordan untouched. In order to utilize the fruits of technological development to their utmost, and to meet escalating needs and pressures, the existing legal and economic structure of the

telecommunication corporation have been brought into question.

The Telecommunication Corporation (TCC) was established in 1971 for all cable and wireless communications as a corporate body with financial and administrative independence. But as it now exists the TCC is similar to any other government department where full bureaucratic control, procedures, and practices are applied to the running of the TCC. It is accused of inefficiency and poor performance, and therefore, it was one of the first public enterprises in Jordan to be targeted for privatisation. This thesis presents the results of research into the question of what evidence there is to suggest that the TCC is inefficient and not performing well, and why privatisation should improve efficiency.

There can be no doubt that the issues of privatisation and performance evaluation will be of increasing importance as a key issue in political and economic debate in Jordan for the coming few years. Yet few Jordanians (officials and public) have a clear understanding of the meaning of these issues and its implications. Thus, in order to achieve the main objective of the study, the thesis has been arranged in order around the following questions:

- What is the previous and the present situation of the Jordanian economy, and the TCC?
- What are the main features of the telecommunications

industry, and what new developments are happening that create the need to reform the basic institutional structure in this industry ?

- What objectives has Jordan applied to the TCC, and what is the position of economic efficiency in future policy objectives ?
- How do public enterprises differ from private enterprises ?
- What is the appropriate criteria for performance evaluation of public enterprises ?
- Have the TCC's current and previous performance been an economic success ?
- What are the alternatives to current management, and are they likely to perform any better?
- What is privatisation and what are the arguments for and against such a policy ?
- What are the basic policy options available for privatisation, and how do they compare with one another in terms of suitability to the case of telecommunications service industry in Jordan ? and finally,
- What specific policies do we recommend ?

The other primary objective of the study is, therefore, to find out what is the best policy option available to the Jordanian policy makers with regard to the TCC, in the light of the rapid technological innovations in the telecommunications industry which have an important impact on the structure of the whole industry, both for

equipment and services, and on its regulatory environment, bearing in mind the worldwide trends of change in telecommunications policy.

For performance evaluation such as the present one, two main approaches are employed, plus many performance indicators and sub-indicators. The process of measuring and evaluating the TCC performance would follow a step-by-step procedure of identifying the objectives set for the TCC in a given period, constructing performance indicators to measure the degree of attainment, and then measuring the performance. This will be done by adopting what is called performance approach "outcome evaluation", which appraises the ex-post facto performance.

The other approach we intend to use is the "public profitability approach". This has been around for some time and was first suggested and developed by L P Jones in the late 1970s. New systems for performance evaluation of public enterprises, based on the above mentioned approach have been developed in both Korea and Pakistan.

The study consists of 10 chapters and has been organized as follows: following this introduction, and to provide the reader with the necessary background, Chapter 2 investigates the structure of the Jordanian economy and deals with the important aspects of the telecommunications industry. For this purpose, the principal characteristics and the relevant factors concerning the Jordanian economy and the key issues of the telecommunications industry are

highlighted.

Chapter 3 investigates the existing corporate responsibilities of the TCC and its working relationship with the government. It also reviews the present organisational structure and the legislative framework under which TCC operates. Chapter 4 examines the progress achieved thus far in the development of the telecommunications industry with particular reference to the telecommunications service in Jordan. The chapter also analyses and evaluates the success or failure of the TCC in achieving its multiple objectives during a Five Year Period (1981-85).

Chapter 5 examines the approaches and models used to evaluate the performance of an enterprise, and deals with the choice of criteria for performance in public enterprise in particular. The chapter also examines the primary criteria for evaluating the performance of public enterprises and specifies the elements of such criteria. Chapter 6 presents a selective review of the main empirical studies that exist in the literature, and examines those systems for evaluating the performance of public enterprises.

Having examined the approaches and models used for performance evaluation, and found out the most relevant and appropriate criterion to evaluate the performance of public enterprises, the next step is then to present an empirical

investigation where the agreed criteria are applied to the case under consideration. Chapter 7 is therefore devoted to the application of the evaluation of the TCC's performance using the agreed accounting approach. It also attempts to identify the levels and trends of the major indicators and sub-indicators.

Chapter 8 discusses the meaning of privatisation and investigates the push towards privatisation. Furthermore, it deals and evaluates the justifications for privatisation and its various forms. Chapter 9 is devoted to the assessment of privatisation prospects with regard to the TCC. The chapter investigates the economic and political climate for privatisation and discusses the privatisation strategy in Jordan. The rationale for the arguments for and against, and the problems encountered by privatisation schemes in Jordan are also examined in the chapter. The UK experience is presented too.

The study is concluded by a summary of the research, conclusions, an agenda for reform and recommendations for policy makers and future researchers. This is presented in chapter 10.

CHAPTER 2

The Structure of the Jordanian Economy and the Important Aspects of the Telecommunications Industry

2.1 Introduction

In recent years, considerable interest has been expressed in telecommunications, which is now considered to be an industry in itself. During the last two decades, there has been rapid technological progress in the telecommunications industry, based on the remarkable development of electronics and communications technology. This has led to a growing number of telecommunications services, and to an increasing utilization of these new services.

The convergence of telecommunications and data processing and the opportunities presented by new telecommunications technologies will have a great impact on future economic growth and policy decisions as well as giving rise to a need to review the constantly changing telecommunications situation.

Telecommunication has a growing strategic importance in socio-economic development in most countries of the world. The role of services and information technology in the economy has increased rapidly and other information and computer service industries, with a widespread impact

throughout all economic sectors, are becoming telecommunications dependent. Telecommunications technology has widened the range of human activities, saving time, space and energy.

For an understanding of the material outlined in this thesis, it is important to provide the reader with the necessary background and, therefore, to introduce him/her to the main features of the Jordanian economy and to address the main issues of the telecommunications industry. Hence, following this introduction, section 2 examines the important aspects of the telecommunications industry, while section 3 investigates the principal characteristics of the Jordanian economy with a brief review of the telecommunications service industry in Jordan.

2.2. Telecommunications Industry

2.2.1 General

Telecommunications is a relatively new industry. It is the product of many years of development and evolution, and can be said to have started in the latter half of the last century with the invention of the telephone by Alexander Graham Bell in 1876. Technological advances are very much a part of this industry which have transformed it from a technologically stationary one, offering a limited service and operating in an unchanging market, to a dynamic one, providing a range of services and products.

The early 1970s have seen extremely rapid development and a spread, worldwide and domestically of:

- telephone and telex networks; and
- electronic computers, office automation and information processing networks.

Each of these types of electronic communication networks has developed as a distinct industry and each industry delivered separate products in quite separate ways. Yet there have been technical and economic forces which have not only blurred the historical basis for the conventional boundaries in the information industries but also introduced a new field of communication called "data-communication".

On the technical side, the revolution in computer and micro-electronics technology has made underlying resources in electronic communications more productive and more substitutable for one another in performing different networking tasks, while on the economic side, relative price changes in markets for inputs into electronic communications networks and in final output markets have changed the profitability and comparative costs of alternative sizes and types of networks.

The telecommunications industry today is of considerable importance in our daily life. It has become an integral part of socio-economic activity and consequently it has become a supplier of infrastructure

support as well as providing services to all sectors. It is a motivating force for the advancement of information, electronic, and communications technologies. Present technological trends indicate that the impact of telecommunications is widespread throughout all economic sectors and will affect all aspects of social and economic relations.

The convergence of telecommunications and computing, which came as a result of the increased technical possibilities for resource substitution in the electronic communications industry will have a great impact on future economic growth and policy decisions. The new telecommunications technology has increased the ability to communicate rapidly by means of the rapid transfer of information. This transfer of information as well as knowledge in general is important in the process of economic development and can be seen as an input into improvements in the fields of health education, industry, ...etc. The use of telecommunications has led to considerable gains in productivity in many economies. It has been much more crucial to economic activity than other kinds of communications, e.g. the postal service. Telecommunications service is necessary for the development of regional and rural areas. It helps governments to achieve objectives such as the decentralization of business and industry which increases the geographical scope of government administration, thereby saving time and energy.

Furthermore, potentially it might help to counteract the rural exodus to the towns, a serious problem in many developing countries.

2.2.2 Characteristics of Telecommunications Industry, and its Markets

The telecommunications industry consists of three distinct elements:-

a) telecommunications equipment;

b) networks services; and

c) the supply of services.

The telecommunications services provide the ability to transmit information among persons or machines at a particular time to a particular place. Capacity in this industry is related to peak demand instead of average demand since information, by its nature, cannot be stored as manufactured goods can. With its high potential for economies of scale, the telecommunications industry has historically and traditionally been considered to be a natural monopoly. This point will be addressed later in this section.

Investment in this industry is highly capital intensive and the telecommunications system under monopoly provision conditions are characterised by cross-subsidisation where, for example, local services and rural areas are subsidized by revenue from long distance and metropolitan areas.

Telecommunications, like any other national infrastructure anywhere, needs time to develop. The development of telecommunications systems and the transfer of technology in general, which have been important political issues in developing countries, require advanced skills and large investments. Since these two basic elements are restricted in most developing countries, telecommunications projects often suffer as a result. Besides, the expansion in telecommunications and modernisation programmes can have a negative effect on balance of payments positions, because the income which is produced when the project is completed is in unconvertible local currency. This means that foreign exchange must be earned in other sectors to pay for the imported equipment and services.

The telecommunications market today is a fast growing, strategic market. New telecommunications services and the increasing importance of information technology have introduced a renewed activity to the market which has had the effect of causing a review of the economic arguments for restricting the telecommunications markets. Furthermore, the last few years have seen crucial changes in telecommunications policy towards liberalisation, deregulation and privatisation.

Telecommunications markets can be classified into the market for long distance services; the market for local

network services; and the telecommunication equipment market. Recent classification distinguishes between the basic services market and the new services market,[1] since each market has its own characteristics, satisfies different needs and uses different technology, different degrees of competition are involved. The growth of the basic services market is slow since it is still using traditional technology and products such as telephone sets, telex etc., to provide customers with voice transmission services (network services). The growth of the new services market is high because the technology and products used in this market are innovative and complex (hardware plus software). This market provides home banking, videotext and VAS (Value Added Service) to its customers most of whom are business people.

2.2.3 The Nature of Demand in Telecommunications

Telecommunications is part of a broader communications industry which includes the postal services, express freight carriers and portions of the transportation industry. It may also be viewed as a part of the broader information-processing industry. The demand for telecommunication services is highly variable from time to time of day, from day to day, month to month and from year to year. It is time dependent. And, since the output of

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(1) See, for example, Almeida, L. T. "The EEC Telecommunications Industry Competition, Concentration and Competitiveness - The Adhesion of Portugal and Spain", Luxembourg, Brussels, Commission of the European Communities, (1987).

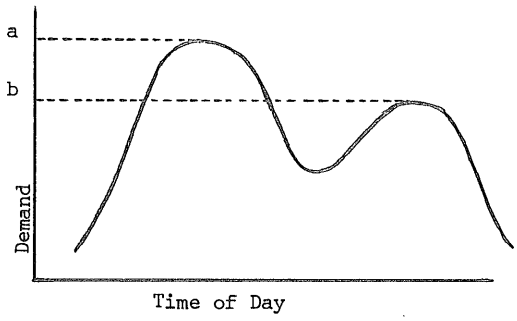
the telecommunications industry cannot be stored or capacity quickly increased, so the peak load problem is introduced in this industry, as in other service industries and public utilities, which means a need to supply capacity that is adequate for peak levels of expected demand. Thus, the telephone plant must be constructed in order to handle demand during the average busy hour during the average busy day of the busy month of the year.

The capacity of each component of an optimal network for a single supplier is designed to hold the maximum demand expected for that component, so during off-peak there is surely excess capacity. If demand is broken up among several suppliers, it is unlikely that the periodic profile of each supplier would coincide with the original profile of demand. But, if several suppliers face different peak periods, then of course, the combined capacities of several suppliers must exceed the capacity of a single supplier. The additional capacity in the system is true excess capacity which can be considered as an economic waste. An extreme example of the non-coincidence of demand with several suppliers is shown in Figure 2.1, where a single supplier is shown to have a demand profile with two peak periods - a business demand peak during the daytime and a residential peak in the early evening. If demand is broken up so that business and residence demand are served by different suppliers, then the combined capacities substantially exceed the capacity of a single supplier.

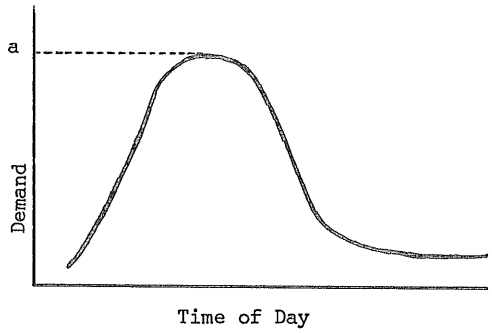
Figure 2.1

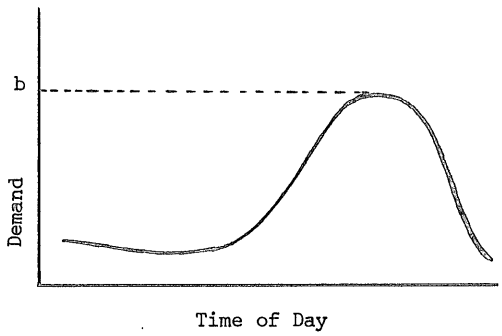
The Non-coincidence of Demand With Multiple Suppliers

a) single supplier



b) two suppliers





Communications in general is characterised as a two sided or joint-sided process. For example, any connection between two individuals requires that both of them be subscribers to the same network . This means that the individual's demand for the telecommunications network services is dependent on who subscribes to that network. The interdependence relationship of demand have required that the supply of telecommunications services by one enterprise will be more efficient than that offered by two or more suppliers since transcription of the whole network would be inefficient. The implication is therefore that a natural monopoly is to be expected in the provision of local networks services. This may explain why - within each country - the supply of telecommunications services is usually a monopoly or near monopoly.

As time goes by, the demand for telecommunications services grows and the public need for these services becomes diversified. Significant progress has been made technologically to meet those needs, especially in the micro-processor technology, which has provided opportunities for more efficient transmission of messages.

2.2.4 Telecommunications and Natural Monopoly

A crucial issue in the formulation of public policy as it relates to the telecommunications industry is whether or not that industry, or part of it, shows the characteristics of natural monopoly. An industry is said to be a natural

monopoly when economies of scale are so great that one enterprise alone can produce and supply the market more efficiently than two or more enterprises. The enterprise in this case will be able to drive out all competitors so the natural result of market forces is the development of a monopoly organisation.

Economies of scale are said to exist when an expansion of X% in the real volume of all inputs leads to greater than X% increase in output. If the enterprise, for example, utilizes only capital and labour inputs to produce output, economies of scale are present when doubling of both inputs, for example, leads to more than a doubling of output. If output, in this example, went up by 110%, the scale of elasticity, a measure of the scale of economies, would be 1.10. This definition, however, presupposes that all inputs increase proportionally with scale.

An alternative, and more general method of measuring scale economies, assuming the enterprise chooses the optimal input combination in order to minimize costs, is to examine the change in cost accompanying an increase in output. Thus, if output doubles and costs increase by only 91%, the scale of elasticity is again 1.10. The definition in terms of cost changes is especially useful when a larger scale of output is characterized by changes in optimal input proportions. This appears to be the case in telecommunications, where a larger scale of operations is often accompanied by increased capital intensity.

It is generally believed by economists that both economies of scale and scope are the first indicators of natural monopoly status. Economies of scope are said to exist when the combination of two or more distinct services within a single enterprise results in lower costs than the production of each service separately by individual enterprises. Costs are lower when services are combined if there is some complementarity in production with respect to the inputs used to produce the service. For example, one could conceive of having two separate telephone networks - one devoted to local service, and the other for long distance service. Each home would then have two telephones, one for local calls and one for long distance calls. However, the two separate networks would duplicate some plant that could be used by the two services in common, since there are few homes where the telephone is continuously being used for either local or long distance calls. This sharing of common facilities leads to economies of scope - lower unit costs are involved for at least one of the two outputs - local and long distance service, by combining the facilities for the outputs within a single enterprise.

Economies of scope can be achieved in a number of ways - not just the sharing of common capital as in the above example. The services can share labour or maintenance costs or there can be unit cost reductions in combining the two outputs within a single enterprise if there are

differences in the characteristics in the use of some time interval, say, a day, leading to differences in the use of some facility at the particular service's peak demand.

Recent theoretical research, written mainly by Bell System Economists, has shown that a natural monopoly might not be able to "sustain" itself against entry and as a result, regulation may be necessary in order to prevent entry which raises social costs. Imagine a monopolist who offers a variety of services under conditions of substantial economies of scale and modest economies of scope. These services are, to some extent, substitutes for each other. A competitor wishing to enter one of the monopolist's markets also enjoys substantial economies of scale (but no economies of scope since the competitor is a single product enterprise). Under these conditions, entry by the competitor may be feasible if the competitor's costs are below the monpolist's price in the one market. The costs of the monopolist supplying the other markets however, increases because of some loss in economies of scale and scope, due to reducing this one output. This possibility is the central result of the "sustainability" literature.

Baumol, Bailey, Willig and Panzar (BBWP) and others[1] associated with the Bell System have offered, despite some variation in analyses, similar views and conclusions concerning the sustainability analysis. Their analysis would reverse certain concepts of regulated enterprises and it suggests a strict public policy against competition. It would also be highly relevant to public enterprises in monopoly or quasi-monopoly positions.[2]

However, the relevant literature on sustainability turns first on a definition of natural monopoly, a technical condition known as "subadditivity" of the cost function. This means that a given market basket of goods can be produced more cheaply by one enterprise than by two or more. For a long time, policy analysis of natural monopoly in public utilities was based on the unlikely assumption of a single output. Sustainability theory made

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(1) See, for example, John C Panzar and Robert D Willig "Free Entry and the Sustainability of Natural Monopoly", Bell Journal of Economics, 8 (Spring, 1977), 1 - 22. W. J Baumol, Elizabeth E Bailey, and Robert D Willig, "Weak Invisible Hand Theorems on the Sustainability of Prices in a Multi-product Natural Monopoly", American Economic Review, 67, (June 1977), 350 - 65. J. C. Panzar and R D Willig "Economies of Scale in Multi-Output Production", Quarterly Journal of Economics, August 1977, pp 481 - 94. W. J. Baumol, "On the Proper Cost Tests for Natural Monopoly in a Multi-product Industry", American Economic Review, 67 (December, 1977) 811 - 22. Robert D Willig, "Multi-product Technology and Market Structure" American Economic Review, 69, (May 1979), 346-51.
(2) For more details of (BBWP) analysis, see W G Shepherd, "Public Enterprises: Purposes and Performance", in W. T. Stanbury and Fred Thompson (eds.) "Managing Public Enterprises", New York, Praeger Publishers (1982).

the conceptual jump of allowing for two or more outputs by a given enterprise or group of enterprises. Let us assume that a telecommunications enterprise provides only two services at respective levels, local calls (L) and national calls (N) where C(L,N) measures the cost. Production can be engaged in either by a single enterprise or by two separate enterprises. In the latter case, the levels of output are L_1 and N_1, and L_2 and N_2 respectively, where $L=L_1+L_2$ and $N=N_1+N_2$. In this multi-product setting, the property of natural monopoly (cost subadditivity) requires the condition

$$C(L,N) < C(L_1,N_1) + C(L_2,N_2).$$

This allows natural monopoly to occur under two quite separate conditions. First, the two smaller enterprises can produce the same mix of products (services) but on a smaller scale, for example, $L_1=L_2=L/2$ and $N_1=N_2=N/2$. In this case, subadditivity would require

$$C(L,N) < 2C(L/2,N/2)$$

which is a multi-product version of economic scale. The second possibility, which has no single-product analogue, is that each of two smaller enterprises could completely specialize in one of the two outputs, for example $L_1=L, L_2=0$, $N_1=0$ and $N_2=N$. Then subadditivity yields

$$C(L,N) < C(L,0) + C(0,N).$$

A function such as the above could exist because a telephone exchange is a cost shared between local and long distance calls. Consequently, an enterprise which provides both services may achieve lower costs than a combination of

enterprises each producing only one product at given output level. In other words, a monopolist can produce both outputs more cheaply than can two enterprises each specializing in one of the outputs.

However, it is worth remembering that not all monopolies are natural. Monopoly may result, for example, from the control by a single enterprise of essential inputs into production, through trade-marks or patents, or from the exclusive right to sell in a certain market. The basic characteristic of this type is that monopoly power is based on the inability of other enterprises to compete on an equal basis. Monopoly power may also result from unfair practices, such as predatory pricing, by one enterprise against its competitors or from the formation of a cartel of several enterprises in a market. A monopoly of this kind is based on behavioural abuses of the process of competition and is not a natural monopoly.[1]

In brief, a natural monopoly is then a monopoly where the technical conditions are such that it is cheaper for one enterprise to produce and supply the market than for two or more enterprises. The natural monopoly problem is normally associated with large industries of central importance to the economy, including the public utilities, where nearly everyone is a customer and where average costs continue to decline whatever the volume of output

(1) For more details, see Sharkey W. W. "The Theory of Natural Monopoly", New York, Bell Telephone Laboratories Incorporated (1984).

produced.

The most frequently cited source of technical economies leading to natural monopoly are indivisibilities associated with a network of some kind. An importance of the distribution costs of utilities, such as water, gas and electricity, derives from the direct links by pipe, tube or cable from producer to customer. If capacity is approximately proportional to the cross-section area of the pipe, while cost is roughly proportional to the circumference, then a doubling of the cross-section will cause a less than doubling of the circumference and thus costs. Other things being equal, therefore, an industry where such factors are significant will be a natural monopoly because doubling the supply to be transmitted through the pipe between any two points less than doubles the cost, and average transmission costs will, therefore, decline. Local networks for the distribution of water, gas, electricity and telecommunications between relatively few supply points and a relatively large number of geographically dispersed customers fit this general pattern.

Proposals for preventing the abuse of natural monopoly positions have differed considerably in both their form and objectives. Some involve the surveillance and control of the privately-owned enterprises by a specially appointed commission, with varying powers depending on the exact nature of the objective. This system has been favoured in

the USA. Others require the nationalisation of the enterprises which are then run by a publicly appointed management with instructions about objectives and means of achieving those objectives. This scheme was the only one broadly followed in the UK for the period after the Second World War, although it has recently been substantially changed.

2.2.5 The Restructuring of the Telecommunications Service Industry

The last few years can be viewed as the era of adjustment in the telecommunications service industry in several major industrialized countries. Such adjustments, toward greater liberalisation, have been profound in recent years in the USA, the UK and Japan. Changes have occurred in other countries, but not to the extent of the former three countries. The changes which have occurred in the USA, the UK and Japan are of different degrees and reflect differences in national structures and also have been undertaken for different reasons. Policy makers generally perceive that technological pressures are forcing change and that the status quo cannot be maintained.

It is difficult to isolate any root cause which has led to changes in telecommunications services, but undoubtedly, technological changes played the major role in facilitating such changes, particularly developments in microelectronics which as a result of lower costs,

miniturisation, the ability to develop intelligence in a range of equipment and increased speed created the information technology revolution, of which structural change in telecommunications is just one part.

However, although the legal and economic structures of telecommunications have been brought into question by technology, it is in fact the business communities in all countries, and in particular, large users of telecommunications services, which have been at the forefront in creating pressures for changes. The attempt to grasp the opportunities provided by developments in information technology have often clashed with static monopoly structures of telecommunications administration.

There is a range of national approaches to the structure of the telecommunications service industry. At one end of the range is the United States which has chosen to allow basically unrestricted competition in the provision of both facilities and services. Over the years, the Federal Communications Commission (FCC), step-by-step, has authorized competition in dedicated private systems, specialised services using leased lines, and eventually public switched services. Over time, it became difficult to maintain distinctions between specialised and switched voice services. Consequently, once one market was opened to competition, it was difficult to confine the pressures to liberalise to that sector and, as a result, swiftly, and almost inevitably, competition came to characterise the

whole industry.

Changes started in 1980[1], accelerated in 1982 when AT&T was divested of 22 local operating companies which were organised in 7 regional holding companies. Generally, the change in US telecommunications industry structure derives by coincidence as much as by intent, from a variety of factors including:

- the perceived economic interests of telecommunications suppliers and users;
- technological developments affecting costs and functionality of terminals and network facilities; and
- the recent ideological vogue of deregulation in favour of marketplace forces.

In hindsight, changes that have occurred in the USA telecommunications industry seem to have been inevitable. Once a universal service had been achieved in the USA, new objectives and new ways of operating were needed. The US policy has been characterised by the evolutionary process of change as the (FCC) attempted to define its regulatory role in a changing technological situation. The system was no longer the solution because it could not respond as effectively as a competitive marketplace to increasingly varied demands of users for new services, product features and technological capabilities. The lesson from the USA

(1) See, for example, Robert W Crandall "Has the AT&T Break-up Raised Telephone Rates?" The Brookings Review, Winter 1987.

case is that it is difficult to instil competition into one particular sector without affecting the entire industry structure. Over time it is anything but easy to maintain distinctions between services or sectors. As a result, the policies of allowing competition separately, in both facilities and services, have grown together and led to an entirely open industry sector.

In the UK the Government is moving in the direction of allowing limited competition in the provision of facilities in conjunction with adopting a liberal set of policies regarding service related competition. The UK is usually held up as a case of significant liberalisation following closely the US experience.

The 1984 Telecommunications Act transferred ownership of British Telecom (BT) to the private sector. In November of 1984, the government sold 50.2 per cent of shares in BT. Unlike AT&T, but like NTT in Japan, BT was sold as a complete unit with its range of subsidiary activities and with a dominant market position. The licence provisions of BT include the obligation to provide a universal service and specifically service rural customers. Facility competition to BT is limited to Mercury which had, in fact, entered the market before privatisation. Mercury Communications Limited (MCL) has been granted a licence to provide telecommunications services in competition with BT. The licence gives the company full rights as a public telecommunication operator and obliges the company to build

a basic network linking the major cities, but does not impose an obligation on Mercury to provide a universal service. The UK has committed itself not to licence a further network operator until at least 1990.[1]

An important provision of the Telecommunications Act was the creation of an independent regulatory body in the form of the Office of Telecommunications (OFTEL) which took over overseeing responsibility from the Department of Trade and Industry. Oftel is responsible for monitoring and enforcing licenses granted by the Secretary of State for Trade and Industry to public telecommunications operators in the post-1984 regime. The conditions and provisions of licences for value-added network services are also set by the Department of Trade and Industry.

Prior to 1984, important changes which occurred included the separation of the Post Office from telecommunications services in 1981. The British Telecom monopoly was also curtailed in 1981 with regard to freeing subscriber equipment, limiting BT to a first telephony monopoly and, by the 1981 British Telecommunications Act, allowing the licensing of competing network operators. Liberalisation in services is proceeding under the aegis of the procedures set up in the 1984 Telecommunications Act. Oftel is beginning to take charge of overseeing the

(1) For more details see Charles Jonscher (1986), "Telecommunications Liberalisation in the United Kingdom", in Marcellus S Snow (ed) Market Place for Telecommunications: Regulation and Deregulation in Industrialized Democracies, Longman, New York and London.

transition process while the Department of Trade and Industry continues as a major force in formulating telecommunications policy.

Greater competition and liberalisation has also been encouraged through the legal and institutional processes in Japan. Prior to restructuring, the telecommunications service industry in Japan was divided between two monopoly carriers:

- Nippon Telegraph and Telephone (NTT) providing national services, and
- Kokusai Denshin Denwa (KDD) providing international services on its own facilities.[1]

Growing business pressure in Japan for reform and more flexibility in telecommunications policy resulted at the political level in a recommendation by the ad hoc committee on administrative reform in 1982 for full scale divestiture and privatisation of NTT.

The visions of an economy based on an information age, the wider economic benefit which could arise from a market-oriented telecommunications system, played an important role in the adjustment of Japan's telecommunications service structure. In April 1985, bills were enacted by the Japanese legislature, they were:

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(1) For more details see Shinto Hisashi (1984), "Reform of the Telecommunications System in Japan", Japan Quarterly, Vol. (31). Also see Tetsuro Tomita (1984), "Japan's Policy on monopoly and Competition in Telecommunications", in Telecommunications Policy, March.

- A Telecommunications Bill designed to stimulate competition, and
- An NTT Company Bill leading to the privatisation of NTT.

NTT was privatised for basically the same reasons as BT. It is said that the old monopoly was important to protect the public interest; that telecommunications was previously a natural monopoly in network terms, and there had to be national interface standards for the network which were controlled centrally.

The main points of interest in comparing NTT privatisation with that of BT appears to be:

- NTT shares are not being sold as a single flotation, but over a period determined by Government, which by law retains at least 30% of the shares.
- Government will not need to approve NTT's budget in future, but it does require to approve their Business Plan for service provision and their construction programme.
- There is no organisation comparable with Oftel, but the protection of competition appears to be under the control of the Ministry of International Trade and Industry, who exercise a strong and pervasive influence over industrial strategy, as a Government organisation, within Japan. Finally,
- NTT has still retained responsibility to provide a universal service.

2.2.6 Competition and Industry Adjustment

Competition is viewed as the foundation of an efficient economy and the effective allocation of resources. The issue of competition in telecommunications services is highly complex, involving more than the resolution of theoretical arguments. The issue is not simply whether there should be competition or not, but what kind of competition should be permitted, where it should be allowed to take place, to what extent and what are the spill-over effects. The full long-term effects of competition in telecommunications services and of long-distance services are intricately linked with questions of tariff structures, social equity goals and social goals such as universal services. Some governments in favour of competition, however, view the adjustment to a competitive telecommunications environment as a longer-term process requiring flexibility and less radical changes than have occurred in the USA, UK or Japan.

The crucial issue in the debate on monopoly versus competition in the provision of telecommunications services concerns the expected potential net benefits which can be derived from competition. The benefits are often difficult to appraise since they rest on more general economic concepts: improved resource allocation, productivity, innovation, enhanced consumer choice, a lower regulatory burden and costs involved in overcoming these regulations.

It is argued that local telecommunications services are considered to be a natural monopoly with significant sunk costs, since they involve the provision of local exchanges and local loops with cables under streets or wires on telephone poles. Competition at this level is therefore likely to be costly and inefficient due to the duplication of facilities. This might be true in those countries with small nation-wide telecommunications networks. The main question facing decision makers is how much competition might increase costs to consumers compared to the costs of keeping down competition through government regulations?

In the end, despite the previous general assertions, little solid analysis is available to determine the impact of structural changes in telecommunication or the costs incurred from existing structure. The difficulty in undertaking such analysis is based on rapidly changing technology and the difficulty in predicting developments in more liberalised market structures. On other hand, little solid evidence exists to indicate that at present levels of network development existing structures are optimal.

2.3 The Main Features of the Jordanian Economy

2.3.1. General

Being a developing country with a relatively small economy, the Jordanian economy is particularly vulnerable

to the economic developments in the neighbouring Arab countries in particular, and in the world economy at large. This situation is made worse by the dependence of Jordan on external finance in the form of aid , remittances and loans.

The structure of the Jordanian economy has been influenced by a variety of factors directly related to the availability of economic resources, the nature and phasing of capital projects, and defence needs, so the size and sectoral composition of GDP has been largely determined by these considerations. As part of the Arab nation, Jordanian growth and development are rooted in a concept of integration and consistency with the growth and development objectives of other Arab countries, with a view to achieving mutual benefits within the framework of Arab Economic Unity. Therefore, much of the growth has been financed by income received or generated from abroad, particularly in the form of Arab aid which has traditionally provided major balance of payments and budgetary support, and remittances from about 350,000 skilled Jordanian workers working abroad, particularly in Saudi Arabia and in the Gulf countries.

2.3.2. Land and Population

The Hashemite Kingdom of Jordan covers an area of 92,134 square Km (excluding the West Bank which is occupied

by Israel in 1967 with an area of 5,607 square Km). Most of this area is desert - only about 11 per cent is suitable for agriculture. Jordan is a centrally located Arab state, bordered by Syria on the North, Iraq on the East, Saudi Arabia on the East and South and Israel on the West. The greater part of the country consists of a plateau lying between 2,000 and 3,000 feet above sea level, and the low land, which lies below sea level, is confined to the valleys of river Jordan and the Wadi Araba which stretches south of the Dead Sea to the Gulf of Aqaba.

The estimated population of the East Bank in 1986 was 2.8 million. The annual growth rate reached 3.5% during the period 1980-1987 which places Jordan amongst the fastest growing nations in the world. The age structure of the population in Jordan is characterized by the predominance of youth (15 years and under) who constituted 48% of the total population in 1986, which means a high dependency ratio of 1:5. These two factors had an adverse effect on average household incomes and savings. 56% of the population live in the Amman and Zarqa governorates with only 20% of the total area of the Kingdom, while the Ma'an governorate, with about half the area of Jordan, had a mere 3.5%.

Jordan is at once an importer and exporter of labour. In 1986 the total labour force was estimated at 670,000 of whom 145,000 (21.6%) were guest workers, most of them from Egypt. Since this time, recession in the Gulf and Saudi

Arabia has limited job opportunities abroad and unemployment in 1986 was running at between 5 and 8 per cent of the labour force or around 34,000 to 54,000 people. So, the Jordanian government, through the current Five Year Plan (1986 - 90) emphasizes job creation and is looking forward to creating 200,000 new jobs during the plan period.

2.3.3. National Economy

The national economy of Jordan enjoys a high degree of flexibility and adaptability to economic change in the neighbouring Arab countries. Public and private sector institutions in Jordan have demonstrated a cooperative spirit in utilizing the substantial inflow of capital from the Jordanians working abroad and from official transfers from Arab states, which contributed to high rates of growth in GDP amounting to 12.1% per cent annually during the period 1976 - 1980. In the early eighties, the world economy and the Arab economies were hit by recession which considerably enfeebled the sources of strength of the Jordanian economy. This recession has speeded up considerably because of the drop in the remittances of Jordanians working abroad, and the significant reduction in Arab aid receipts from an average of $1.2 billion in 1980-81, to only a little over $600 million in 1986.

Under these circumstances, real GDP growth rates were understandably depressed. GDP at current factor cost in

1986 totalled JD[1] 1400.2 million, that is 2.4% on the 1985 figure, compared with 5.9% and 3.9% in 1984 and 1985 respectively. At market prices, GDP rose 2.6% up to JD 1613.6 million, against a 4.9% increase in 1985 as is shown in Tables (2.1) and (2.2).

TABLE 2.1

Economic Growth - JD million

	1982	1983	1984	1985	1986
Gross domestic product (at market prices)	1321.2	1422.7	1499.4	1573.3	1613.6
Gross national Product (at market prices)	1673.4	1769.3	1854.5	1849.2	1917.4
Per capita GNP (JD)	697.5	709.1	714.6	685.2	683.8

Source: Central Bank of Jordan "Twenty Fourth Annual Report", 1987 Department of Research and Studies.

(1) The Jordanian Dinar is pegged to the SDR at rate of JD1=SDR2.579.

TABLE 2.2

Growth Rates of Gross Product at Current and Constant Prices

%

	1982	1983	1984	1985	1986
Current prices					
GDP at factor cost	12.3	6.2	5.9	3.9	2.4
GDP at market prices	13.5	7.7	5.4	4.9	2.6
GNP at market prices	12.9	5.7	4.8	-0.3	3.7
Constant prices (1980=100)					
GDP at factor cost	4.6	1.1	2.0	0.9	2.4
GDP at market prices	5.6	2.5	1.5	1.9	2.6
GNP at market prices	5.1	0.7	0.9	-3.2	3.7

Source: Central Bank of Jordan, (1987) op. cit.

2.3.4 Structure of Production

In 1986 growth rates for economic sectors range from 2.7% for mining to 19.7% for electricity and water supply. A clear improvement can be seen in financial and real estate, government services and domestic services of households sectors. Manufacturing, trade and construction sectors plummeted by 0.2%, 5.0% and 9.6% respectively. These developments depressed the contribution of commodity producing sectors to GDP from 37.7% in 1985 to 36.6% in 1986. Table (2.3) represents the growth rates of economic sectors at current prices.

As the data in Table (2.3) shows, there is a significant drop in the growth rate of income generated in agriculture from 13.6% in 1985 to 2.7% in 1986. This shift was due to a drop in acreage and average rainfall regarding field crops, and to shrinking export opportunities and lower domestic prices in the case of vegetables.

The mining and manufacturing sector is characterised by concentration on a few large capital-intensive industries such as phosphate rock and potash, which are the principal activities of the mining industries and currently represent Jordan's primary natural resources. The whole sector is suffering from the small size of the domestic market, and from weak forward and backward linkages within industry itself as well as with the other sectors, besides being heavily dependent on imported raw and other

TABLE 2.3

Growth Rates of Economic sectors at Current Prices %

	1982	1983	1984	1985	1986
Agriculture, forestry and fishing	8.9	34.5	-9.5	13.6	2.7
Mining and Quarrying	5.1	-16.5	34.0	1.6	2.7
Manufacturing	12.0	-4.5	13.3	-2.9	-0.2
Electricity and water supply	20.5	11.9	18.4	-6.0	19.7
Construction	10.2	4.0	0.2	-2.0	-9.6
Wholesale and retail trade restaurants and hotels	7.2	8.1	5.8	6.1	-5.0
Transport and Communications	20.3	12.1	3.7	6.1	6.2
Financing, real estate and business services	16.2	5.0	6.6	6.1	7.4
Community, social and personal services	29.3	10.1	33.5	10.2	3.0
Imputed bank service charges	32.3	29.1	12.6	34.8	3.9
Producers of government services	14.3	6.2	2.8	7.7	9.8
Non-profit Institutions	15.2	11.0	9.4	10.0	3.7
Domestic services of households	4.2	40.0	14.3	2.5	4.9
Gross Domestic product (at factor cost)	12.3	6.2	5.9	3.9	2.4

Source : Central Bank of Jordan, (1987) op. cit.

materials. A significant improvement in this sector is expected with the re-opening of the Iraqi market for Jordan's industrial exports.

A 1.1% fall in the contribution of the construction sector to GDP reflects the low level activities of this sector. The income generated in the construction sector dropped from JD 124.4 million in 1985 to JD 112.5 million in 1986, that is a decrease of 9.6% in real terms. The sector suffers from weak management and recurring financial problems and it has failed to create a construction export capability.

The services sector continues to occupy a prominent position in the Jordanian economy. As is shown in Table (2.4), in 1986 it accounted for 63.4% of GDP at factor cost. It absorbed about two-thirds of the entire Jordanian labour force, and employed nearly one-third of imported labour. This dominance of the services sector in GDP and employment is due to several factors such as the large role of external official transfers in financing government expenditures, especially defence, the geographical location of Jordan and its attendant large involvement in transit trade and the high dependence on external trade to meet consumption and investment needs.

Jordan's economy has traditionally recorded a deficit in the balance of trade, since it is heavily dependent on

TABLE 2.4

The Relative Importance of the Contribution of Economic Sectors to GDP at Factor Cost %

	1982	1983	1984	1985	1986
Agriculture	7.0	8.9	7.6	8.3	8.3
Industry	19.7	17.3	19.1	18.0	17.6
Electricity and water supply	2.2	2.3	2.5	2.3	2.7
Construction	10.4	10.2	9.7	9.1	8.0
Total directly productive sectors	39.3	38.7	38.9	37.7	36.6
Trade	18.0	18.3	18.3	18.7	17.4
Transport and communications	10.6	11.1	10.9	11.1	11.5
Financing, Real Estate and business services	11.0	10.9	11.0	11.2	11.8
Product of government services	18.7	18.7	18.1	18.8	20.1
Other Services	2.4	2.3	2.8	2.5	2.6
Total Services	60.7	61.3	61.1	62.3	63.4
Gross Domestic Product	100.0	100.0	100.0	100.0	100.0

Source: Central Bank of Jordan, (1987) op. cit.

imports of crude oil, manufactured goods, foodstuffs, and raw materials. This means that there is little prospect of Jordan's trade deficit being eliminated in the future unless the recent oil discoveries in the north-east of Jordan are in a commercial amount, which could then lead to a significant reduction in the trade deficit.

The main domestic exports are phosphate rock, potash, and fertilizers, which altogether accounted for JD 125.28 million in 1986, or about 55.5% of all domestic exports. The greatest portion of exports are 45.2% to Arab countries, with 15.1% to India, 12.9% to socialist countries, 8.4% to EEC countries and 18.7% to others.

2.3.5 External Trade

External trade plays a crucial role in the Jordanian economy. It has been accorded great attention by the government. The activities of this sector have declined considerably in 1986 as the value of external trade dropped 19.1% compared with a fall of 0.2% in 1985. Therefore, per capita, external trade plunged from JD 492.7 in 1985 to JD 383.3 in 1986. This decline was due to the contraction of exports and imports, both adversely affected by the drop in international commodity prices as well as by continued economic slowdown in the world generally.

In 1986 and for the third straight year, the trade deficit dropped from JD 763.56 million in 1985, to JD594.18

million in 1986. This shift was mainly attributed to the fall in crude oil prices and generally to a decline in imports from JD 1074.45 million in 1985, to JD 850.2 million in 1986. Thus, the portion of imports financed from exports rose from 29% in 1985 to 30.2% in 1986 as shown in Table (2.5).

TABLE 2.5

External Trade Balance – JD million

	1982	1983	1984	1985	1986
Imports	1142.49	1103.31	1071.34	1074.45	850.20
Domestic exports	185.58	160.09	261.06	255.35	225.62
Re-exports	78.95	50.50	29.6	55.54	30.40
Trade balance	-877.96	-892.72	-780.68	-763.56	-594.18
Export/ import ratio	23.2	19.1	27.2	29.0	30.2

Source : Central Bank of Jordan, (1987) op. cit.

2.3.6 Public Finance

Public revenues rose by 1.9% in 1986, and totalled JD 850.6. This increase was mainly due to a remarkable improvement in domestic revenues as they rose by 21.8% and totalled JD 517.17 million against JD 424.53 in the previous year. Domestic revenues still remained lower than current expenditures. They financed 89.3% of current expenditure in 1986 compared to 78.4% in 1985. The

relative importance of tax revenues remained high as they formed 61% of 1986 domestic revenues. Revenues from indirect taxes rose 2.4% up to JD 255.9 million. The non-tax revenues recorded the higher increase in domestic revenue for 1986 up to JD 201.94 million or 88% compared with 0.9% in 1985. The main cause of this boom was the threefold increase in miscellaneous revenues, from JD 40.3 million 1985 to JD 128.4 million in 1986, as a consequence of the surplus engendered by the falling in oil prices.

Despite the government policy of curbing public spending in the 1986 budget, the public expenditure was boosted by 23.3% up to JD 1002.63 million, or 8.5% above the figure targeted in the 1986 budget. Expenditure on defence and security accounted for 43% of the total current expenditure and totalled JD 249.59 million in 1986. The financing of capital expenditure relies heavily on foreign aid and loans because of deficits in the current account. Capital expenditure also grew by 56.1% to reach JD 423.40 million in 1986. Most of this increase was concentrated in outlays on land, buildings and construction belonging to the Ministry of Planning and Jordan Valley Authority, which soared by JD 37.9 million (26.7%).

Public Finance is characterised by persistent overall budget deficits and 1985 is an exception. The surplus of JD 21.78 million in 1985 shifted into a JD 152.0 million deficit in 1986.

TABLE 2.6

Summary of Government Budget – JD million

	1982	1983	1984	1985	1986
Public Revenues	627.05	676.66	652.94	834.63	850.63
Domestic Revenues	362.04	399.97	411.67	424.53	517.17
External Revenues	264.86	273.81	228.31	377.40	304.06
Other Revenues	0.15	2.88	12.86	32.70	29.40
Public Expenditure	693.55	705.27	720.80	812.85	1002.63
Current Expenditure	442.97	453.67	488.09	541.66	579.23
Capital Expenditure	250.58	251.60	232.71	271.19	423.40
Surplus (+)/ Deficit (-)	-66.50	-28.61	-67.86	+21.78	-152.00

Source : Central Bank of Jordan, (1987) op. cit

2.3.7 Development Planning and Private Sector

The present economic system of Jordan has made a basic contribution in fostering the co-operation of all segments of the citizens in sustaining and strengthening the development process, as well as in bringing about a partnership between the public and private sectors. Therefore, the government played a pioneering role by

operating the basic infrastructure for private business and participating with the private sector in implementing large-scale projects which are too great to be financed by private investment alone, and finally, by providing incentives and an appropriate entrepreneurial climate for private investment.

The main features of the planning process in Jordan have been determined by factors of economic policy, prevailing conditions and available domestic resources. The general framemwork of the current Five Year Plan (5YP) (1986-1990), reflects the aspirations which Jordan strives to attain in the forthcoming period, with the scope of the long term objectives in economic development. It is designed to reinforce the national economy's own potential and enhance its efficiency at the adjustment stage, which requires that private sector institutions and individuals be given the opportunity to utilize their capabilities and contribute more effectively to development.

The current 5 Year Plan has attempted to increase the contribution of productive sectors. The government's objective is that these sectors should reach 38.8% of GDP in 1990. This implies an investment level of JD 3115 million at current prices, of which more than half has been allocated to the public sector. It also emphasises job creation with a view to creating 200,000 new jobs for Jordanian workers returning from abroad, and for those already coming on to the labour market for the first time.

The key objective of the plan is a 5% average annual growth in GDP over the plan period. Jordan's development strategy emphasizes the need to reduce the deficit on the balance of payments by increasing exports, and reducing imports. The success of the plan depends largely on the government's ability to raise the required funds, and borrowing is expected to cover 17% of total investment.

To attract direct investment and technological progress, the investment law of 1984 has opened the economy to foreign investment, and offers a wide range of tax concessions and liberal terms for repatriation of capital and profit.

2.3.8 Review of the Telecommunications Service Industry in Jordan

2.3.8.i Historical Review

The Jordanian government has for a number of years recognised the strategic role of telecommunications and seen it as an integral part of social and economic development. It has been perceived as an essential element in the growth of a modern economy complementing other investments in the national infrastructure.

In Jordan as in many other countries, government policy has historically assumed that both telecommunications and postal services should be owned, operated, and managed by the State. The primary reason is

that both services facilitate, in part, the same general function: two-way communication on a spatial basis, and this might explain why the telecommunications industry, both historically and traditionally, has been considered as an extension of the publicly-owned postal monopoly.

Telecommunications services in Jordan have been run by the Ministry of Communications since 1951, when the Ministry of Communications was first established. The Ministry was responsible for all local and national telecommunications services while the international telecommunications services were operated by a British company until 1966, when the State took over the responsibility for these services. The Ministry was interested in developing and expanding the communications services as well as working to improve the quantity and the quality of telecommunications services.

The technologies used in telecommunications services have, over the years, changed rapidly, as is reflected in falling real costs and improvements in service. The mechanical telecommunications services were first introduced in the capital, Amman, in 1961. After that, manual services were replaced by mechanical services in other cities of the Kingdom. Mechanical telex services were put into service in 1968 as a result of the increased demand for new and improved services. Jordan was one of the first developing countries to operate such a service.

As regards international telecommunications, the first satellite earth station in Jordan was set up and operated in 1971. This was done in order to benefit from satellite technology which has increased the ability to communicate rapidly by means of the rapid transfer of information over the last few years. It is currently used to provide a number of different services such as point to point, point to multipoint, or multipoint to multipoint services, which transcend geographic and physical boundaries.

2.3.8.ii Establishment of a Public Corporation

The responsibility for telecommunications policy lies with the Minister for Communications. Consultations began at the end of the 1960s to split the post office into separate postal and telecommunications bodies. The separation took place in 1971. After that, a statutory framework for the telecommunications corporation (TCC) was established. This organizational change in the structure of telecommunications was designed to inject some sort of independence with respect to the provision of basic telephone services.

It was made a public corporation under Law No. 29 of 1971, with the stated intention of increasing its freedom from government so as to exploit more fully significant technological development, and to provide the services of public telecommunications as a single carrier. Jordan, therefore, as many other developing countries, has more

stable sectoral organisations with one public organization that provides all telecommunications services.

The basic purpose of the TCC policy thereafter has been to secure a certain standard of communications service at as low a price as possible in the most convenient way. The TCC became responsible for the provision and operation of all local, national and international telecommunications services in the Hashemite Kingdom of Jordan. It is headed by a general director, who is directly accountable to the Minister of Transport and Communications, Chairman of the Board of Directors of the TCC.[1]

2.3.8.iii <u>The Role of Telecommunications in the Jordanian Economy</u>

Telecommunications services have a crucial role to play in the survival and prosperity of strategic sectors of the economy. The support of telecommunications, as well as other infrastructural sectors, for furthering Jordan's growth strategy, is easy to identify. Telecommunications providing services to all sectors leads to an increase in the efficiency of economic, commercial and administrative activities, and improves the effectiveness of the social services and induces a more equitable distribution of the benefits of the process of development throughout the

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(1) After the merger of the Ministry of Communications and the Ministry of Transport in 1987, and became one Ministry, the Minister of Transport and Communication became the Chairman of the board of directors of the TCC.

nation. It is thus a key infrastructural service.

Telecommunications has been used as a tool of macro-economic policy in Jordan. Government concern with public expenditure has led to repeated intervention in telecommunications, long-term planning and investment strategies. Many TCC's investment projects have been very vulnerable to cuts in public expenditure. Conversely, TCC's income from its services is regarded as one of the main sources for the domestic government's revenue. In 1986 it accounted for JD42 million, or 8.12% of the total domestic revenues, and produced about 2.6% of GDP at market prices. The business workforce was 3,324 in 1986 (0.63%) of the total Jordanian labour force. Telecommunications thus is among the very largest of the basic infrastructural services in Jordan.

The strategic role of telecommunications in national development and the high financial returns on telecommunications investments as well as the benefits they imply, have been increasingly recognized by the Jordanian governments. This has led to re-organisation of the telecommunication's sector in the late 1970s and to a huge investment in the TCC projects which totalled JD87 million in the previous 5YP (1981-85), and the current one targeted JD 90.9 million.

The TCC had been largely concerned with the provision of a basic service for both business and residential

customers. By 1971, the year of the establishment of the TCC, the number of connected DELs[1] was about 18,000 lines, nine years later the number had risen by 333% up to more than 60,000, and to 203,000 as of the end of 1987, predominantly of modern electronic and digital systems. The goal of the TCC in the current 5YP is to provide an additional 220,000 telephones, bringing up the penetration ratios of the telephones per 100 population to 16.3%. It also aims to introduce and expand the use of the following new services :

a) Facsimile

b) Data Transmission

c) Dispatch (taxi-service)

d) Paging.

This rate of development is to be commended and reflects specific factors and priorities within the Jordanian economy. The economic sectors are important to future national economic growth. They are heavy users of telecommunications. Therefore, any progress in commercial and service sectors in particular, requires efficiency in the above sectors and especially in infrastructure, including telecommunications. This collectively with the relative plenty of urban residential and rural sectors, will also serve to maintain heavy demand for basic telephone, and the newer advanced telecommunications services in all cities, towns, and surrounding rural areas

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(1) Direct Exchange lines.

in the Kingdom. Hence, if the current pace of economic and social development is to be sustained, it will be vital to secure the necessary investment for continuing rapid development of the telecommunications network, as a major economic importance in the process of social and economic development in Jordan.

2.3.8.iv Effect

The increasing global recognition of the importance of telecommunications for present and future national economic growth, and the above development requirements, which place difficult demands on the present status of the TCC, and its relationship with the government, is becoming a political and economic issue in Jordan. The Jordanian government is accusing the TCC of inefficiency and poor performance and they believe that within its present status, the TCC does not have the ability to respond effectively to such changing and demanding circumstances in a rapidly evolving environment. Consequently, the process of privatising the TCC is currently being considered by the government.

But, has the performance of the current and previous policy of the TCC in its present status, as a public corporation, operating in the public sector, been an economic success ? And, what are the alternative options? The answers to the above questions form the core work of the thesis, and in order to begin looking at the TCC's

performance in the following chapter, we will examine and analyze the general framework of the TCC, particularly those areas that are relevant to the matter of performance evaluation, in an attempt to develop an analytical structure for determining the TCC's performance.

CHAPTER 3

Internal and External Environment and Factors Which Affect the TCC's Performance

3.1 Introduction

Performance evaluation of an enterprise is an activity which if we were to ask what should be incorporated, we would be likely to compile a list of issues for investigation. In this chapter we will attempt to emphasize the internal and external environment and factors which affect TCC's performance. This will be done by investigating and analyzing the sorts of inputs which influence the TCC performance such as the constraints, goals, decision-making responsibilities...etc.

Therefore the legislative framework under which the TCC operates will be presented in the following section. The administration of the TCC and its hierarchical structure will be analyzed in section (3). In section (4) issues regarding authority, control and accountability will be examined. The autonomy issue will be investigated in section (5), while in the final section, previous and current TCC objectives will be reviewed.

3.2 The Existing Legislative Framework

The TCC has taken its separate legal personality from the telecommunications corporation Law No. 29 of 1971. This specifies the duties and responsibilities of the TCC, the Board of Directors, the General Director of the TCC...etc. A translation of the above Law into English is included at Appendix 3.1 to this chapter.

In section 2 of the above Law (paragraph 5), the meaning of 'telecommunications' is defined, while section 3 states that

> "A corporation to be known as 'The Telecommunications Corporation' shall be established in the Kingdom for all cable and wireless communications, and it shall be a corporate body represented by the Chairman of the board and shall have financial and administrative independence,...."

Thus, TCC was established as a semi-autonomous Government-owned corporation in charge of the provision and operation of domestic and international telecomunications services. It has the monopoly of public telecommunications services: telephone, telex, telegraph and all other media of transmission, such as data and television. While it is not stated specifically that the TCC is responsible for providing telecommunications services to meet customer demand, it is implicit in the Law that the TCC is the only body capable of discharging the total responsibilities involved in providing such services to all types of customers on demand.

3.3 The TCC Administration and Its Present Organisational Structure

The TCC administration and the supervision of its work is the main responsibility of its Board of Directors as is mentioned in section 7 of Law No. 29. The members of the Board of Directors are appointed under the above Law, and currently it consists of:-

Chairman	-	The Minister of Transport and Communications
Vice Chairman	-	Director General of the Corporation
Members	-	Undersecretary of the Ministry of Transport and Communications
	-	Undersecretary of the Ministry of Planning
	-	Director General of the Budget Department
	-	Chief Signal Officer/Jordanian Armed Forces
	-	Two members elected by the Council of Ministers from the Private Sector
Board Secretary	-	Appointed by Director General from the TCC staff.

The powers and duties of the Board of Directors are specified in Section 8 of the above Law. These range from formulating and directing the policy of the Corporation,

securing loans from Arab and foreign states... to... determining the list of standard charges payable for the services of the Corporation. With respect to the matter of the TCC management and its relationship with the Board of Directors, the TCC management is expected to pursue the objectives and follow the policies laid down by its Board of Directors, and to manage the operating business in a professional and cost-conscious way. The Director General of the TCC, who is appointed by the council of ministers, with the approval of His Majesty the King,

> "Shall be responsible to the Board for the implementation of the general policy and programs adopted by the Board, and for the conduct of the work of the corporation..."

(Section 11 - from the Telecommunications Corporation Law). The duties and powers of the Director General are specified in Section 12 of the above Law.

The existing structure of the TCC, as shown in Figure (3-1), reflects a highly centralised functional/regional organisation biased towards operation with less emphasis on corporate planning and business development. There is no clear demarcation of operational responsibilities between headquarters (even though Directorates is a separate division) and regions. In most cases, headquarters' responsibilities extend beyond policy and planning to management and control of some operations and maintenance functions.

The TCC is not organised and managed as a business. Its present structure does not have the management

characteristics of a commercial telecommunications entity and it lacks some important functions, such as treasury, corporate planning and marketing. The existing organisation of the TCC comprises four assistants to the Director General. They are the managers of the following four divisions:

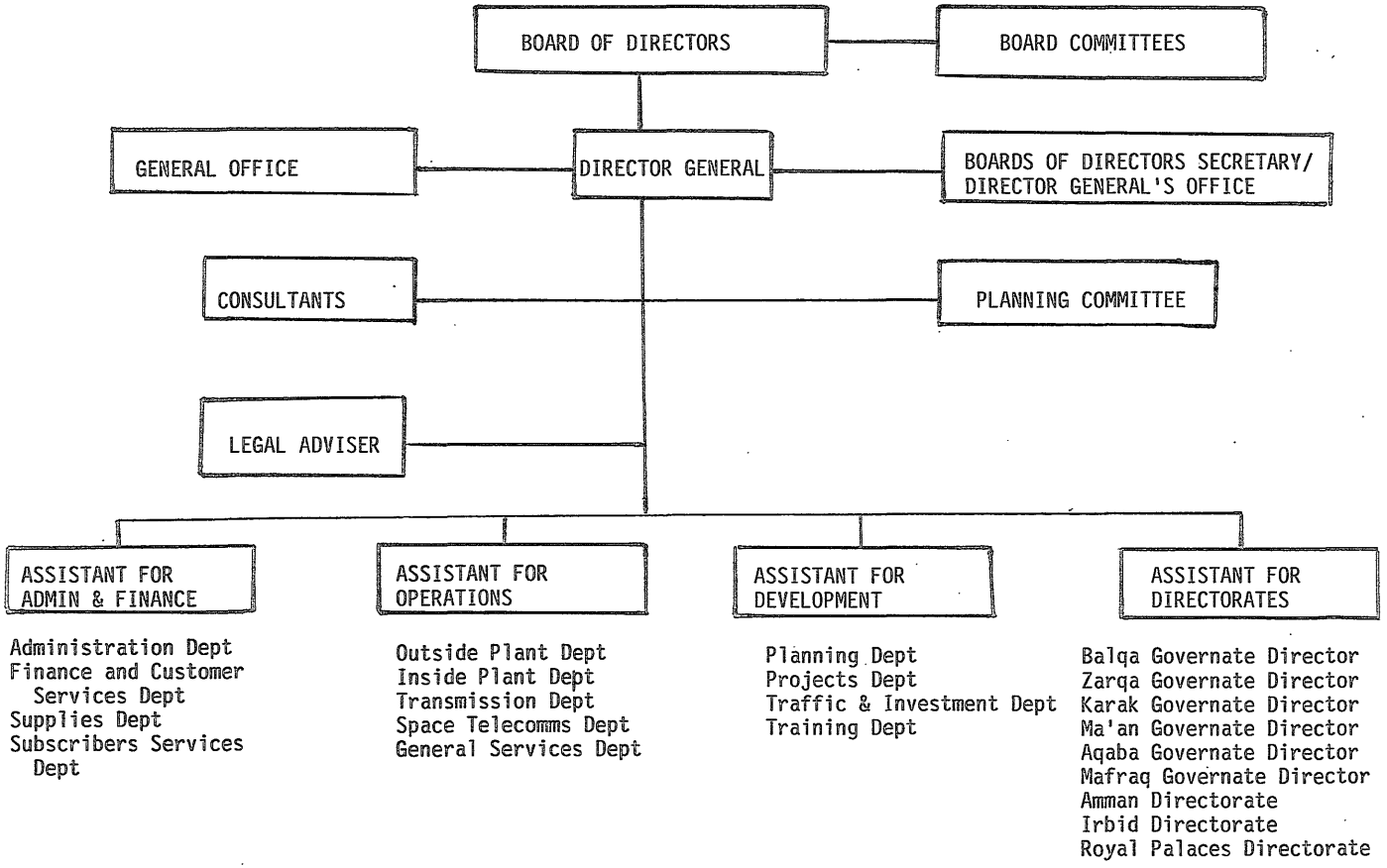
- Administration and Finance.
- Directorates.
- Operations.
- Development.

The TCC is administered on a day to day basis by the Director General and his four assistants. Three of them are responsible for running the headquarters departments of Administration and Finance,Operations,and Development while the fourth assistant is responsible for the nine Directorates.

In the current organisation of the TCC there are no job descriptions to define authorities, and specify duties and responsibilities for each management level in the organisation. For example, the Traffic and Investment Department not only deals with the matters of the measurement of traffic on local, national and international calls, but also with tariff suggestions for new and existing services. They are also concerned with operator services and billing for both telephone and telex services. Furthermore, part of the Irbid Directorate, despite having its own transmission maintenance staff is, in fact,

Figure 3.1

BASIC ORGANISATION CHART OF THE TCC



controlled by the Headquarters Radio and Transmission Group. As a result, there is a lack of clear demarcation between headquarters and field operational responsibilities. This is combined with a lack of a formal finance involvement, leading to difficulties in identifying the operational and financial responsibilities of senior management.

3.4 Authority, Control and Accountability

The matter of authority and control over the TCC is specified in the Telecommunications Corporation Law No. 29 of 1971. Section 8 of the above Law specifies the powers of the Board of Directors. These range from:

> "Formulate and direct the policy of the corporation, and follow up the implementation of such policy and supervise the various activities of the corporation"... to ... "carry out any work and adopt any measures which the Board may deem necessary, useful or appropriate for the achievement of the objectives of the corporation or the exercise of the powers of the Board as prescribed under this Law".

However, subsequent sub-paragraphs of this section state that approval has to be obtained from the Council of Ministers for items such as :

- programs and projects for the development of the cable and wireless network.
- Annual budget and any amended or supplementary budget.
- Granting the financial authorisation and other powers to any bodies deemed appropriate.
- Concluding agreements with Arab and foreign states and institutions for connecting the cable and wireless

network with the networks of these states and institutions.

- Concluding loans with Arab and foreign states and local Arab and international companies and institutions.
- Issue loan debentures.
- Determination of the list of standard charges payable for the services of the Corporation.

By the term "control", we mean the set of institutions, rules, and procedures, which are used to regulate the decision taking of the TCC, in order to ensure that its decisions are taken in conformity with the objectives which government hold for it. The Jordanian government has sought to use TCC as an instrument of macro-economic policy. It is regarded as a source of revenue for the government. Public expenditure concerns by government also lead to repeated intervention in the TCC's planning and investment decisions and strategies.

TCC is also considered to be one of the major vehicles to be used to speed up economic development in the economy as a whole. The government therefore has strong and direct control over it. The control usually exercised by the government over the TCC takes a variety of forms. One of these forms is what is called a formal control. This type of control is mentioned in Sections 8, 11, and 12, from the TCC Law. As a consequence, the Jordanian government has the power to exercise control over the broad policies

followed by the TCC. Furthermore the above Law gives the Jordanian government the ability to appoint the Board members and the Director General of the TCC. Section 11a states that:

> "A Director General of the Corporation shall be appointed. His appointment and the termination of his services shall be effected by the Council of Ministers with the approval of the King. The Council of Ministers may prescribe in the regulation which may be enacted for the purposes of this Law any conditions regarding the appointment and termination of services of the Director, and the determination of his salary, allowances, rights and duties, as it may deem fit".

In Section 12 of the Law, the duties and powers of the Director General are specified. They range from his obligation to:

> "Assist the Board in developing and formulating short and long term plans"... to... "Carry out the functions entrusted to him under this Law and any regulations enacted thereunder, as well as any instructions issued by the Board".

Budgetary control is another type of control exercised over the TCC revenues, expenditures, projects, and the prices charged by it. The TCC budget and financial procedures still continue to be linked to the general budget just as any Ministry or Government department is. All the TCC revenues, collected for its services are directly paid into an account in the Central Bank of Jordan and become government revenues. Also, all its expenditures are allocated in the general budget, and as a consequence, all the main decisions on the determination of tariffs, budgeting and financing of the TCC, are made by the Council of Ministers on behalf of the Government.

One point to bear in mind is the problem of inflation. Inflation is mainly a problem for the project analyst if he is looking backwards, not forwards. If he is trying to establish the historical social rate of return on an investment, or to interpret past movements of prices for a particular product to see if there was any trend independent of general inflation. If inflation proceeded uniformly so that relative prices were unaffected, it would not be a reason for prices to be a poor measure of real costs and benefits. But this, for institutional and political reasons, is seldom the case. For example, governments in such circumstances will often use price controls in selected fields where they can in practice be operated. This makes activity in these fields relatively less profitable or even in some cases, unprofitable, without regard to the net benefit of such activities.

Closely related to this subject is the matter of accountability. Public enterprises are generally accountable to the public for their performance. In the public enterprise literature there are two parts of accountability:[1]

a) the accountability of the enterprise managers, and

b) the accountability of the enterprise to society.

With regard to the first one, the Director General of the TCC is accountable to the Board of Directors for his

(1) For more details, see Ramanadham, V. V. (1984) "The Nature of Public Enterprise", Croom Helm, London and Sydney, Chapter Two.

decisions and final results since he is provided with certain duties and powers. Section 11b states that:

> "The Director General shall be responsible to the Board for the implementation of the general policy and programs adapted by the Board, and for the conduct of the work of the Corporation, and he must devote his efforts to his work exclusively and may not accept any other work or engage in any commercial activities."

The accountability of the TCC to the society has to be adjudicated at the parliamentary level, since parliament is the representative of the people under the country's constitution. Therefore, the accountability of the TCC as a whole is secured via the Minister of Transport and Communications - Chairman of the TCC Board of Directors, who is accountable to the parliament for the actions of the TCC Board of Directors, and for his own dealings with the Board.

In practice, the Jordanian parliament has little to do with the TCC or any other public enterprise, since the only parliamentary occasion when Ministers are called to account is during the budget discussion, which usually takes place in December each year. On this occasion, individual M.P.s, who often suffer from a lack of information, traditionally raise matters with Ministers during question time. The Prime Minister on behalf of his Government, and after consultations with the Minister in question, answers questions on the general framework of his government policy. Sometimes specific issues are raised. However,

this situation has recently been substantially changed.[1]

3.5 The Autonomy Issue

The speed of development in telecommuncations technology and the increased rate of change in its services, which then increased the demand for new and innovative services, has given telecommunications a new role in the economy and society, and turned a stately progress into a headlong race. The management of this dramatic service industry then will have to come to terms with the fact that the services they provide are now being enhanced and used to differentiate the services supplied by users in a way different than before. Such a situation has created a demand to reform the telecommunications industry in many countries.

Over the last few years several developed and developing countries have been undergoing a fundamental transformation due to the impact of changes in technology. The only response from the Jordanian government towards these changes occurred in the early 1970s, when a major organisational structural change took place after the separation of telecommunications from postal services. Furthermore, in late 1971, TCC was established to "have financial and administrative independence". (Section 3 from the TCC Law).

(1) After the new parliamentary elections which took place in November 1989, a new generation of M.P.s, were motivated to question Ministers and officials whenever the need arises.

But to what extent did the TCC achieve the financial autonomy and attain autonomy in its administrative processes ? The answer to this question requires an examination and investigation of the policies pursued by the Jordanian government with respect to the issue of financial and administrative autonomy, particularly those policies with great relevance and influence to the TCC performance.

3.5.1 Financial Autonomy

With regard to the financial autonomy of the TCC Law No. 29, Section 3, and Section 14a clearly states that:

> "The corporation shall have an independent financial existence, and its budgets shall be prepared independently of the State budget. Its....".

In financial terms, as mentioned earlier, the TCC operates as any other government department, following financial procedures adopted by the Ministry of Finance. The procedures mean that the TCC budget is still linked to the general budget, and all revenues and expenditures are accounted for on a cash basis, rather than in accrued terms as in a commercial system. Once funds have been allocated, the TCC management cannot transfer from one budget expenditure category to another, without written permission from the Minister of Finance, based on a recommendation from the budget department.

According to this procedure, the TCC is not required

to produce any set of accounts such as a profit and loss account, balance sheets and source of application of funds at the end of each year. But from the beginning of the financial year 1981, annual accounts have been compiled by the TCC with the assistance of a firm of professional accountants. Hence, a detailed financial analysis can be made and an accurate view of the financial position of the TCC can be obtained.

Regarding the present accounting system, for the purpose of financial control of government departments, the present accounting procedures in general are adequate, but insufficiently comprehensive for reporting and controlling the activities of service industry organisation. Some accounting methods and routines are not followed in the TCC, which means that the financial control system is not as effective as it might be . As a result, the financial information produced is not always detailed enough, nor in the right form to permit the TCC management to coordinate and control the financial operations of the corporation. The yearly adjustments that have had to be made in converting the cash based accounting records by the external auditors to an accrual basis in order to set up the annual accounts, is clear evidence of the weaknesses in the present accounting system. In their management report on the 1983 accounts, the external auditors reported that they had had to make about 100 adjustments to the TCC's records. These amounted to a total of about JD30 million.

Another example where the present accounting systems falls short of normal accounting standards for such business is that the monthly trial balances are not compiled to ensure that all postings have been made correctly. Also, because a set of annual accounts is only available once a year, and usually after 7 to 8 months from the year end, it means that the TCC management have no regular, accurate and up to date reports of the Corporation's true financial performance.

Furthermore, some entries in revenue and expenditure items are made in bulk once a year, rather than on a daily basis as they arise. This means that these items are not clearly identified. Moreover, there are some important reconciliations in areas such as cash, fixed assets, accounts receivable and salaries, which are not regularly performed and in some cases are totally absent. An additional example of the weakness in the current financial system is that loan payments are made by the Ministry of Finance on behalf of the TCC. These payments are not posted in the books of the TCC, for example, which means that capital project costs are being understated. Furthermore, separate accounts are not maintained for each loan.

Concerning Billing and Collection, the billing cycle in the TCC starts when the readings of the meters are submitted to the Royal Scientific Society for processing on their computer, since at the time of this research, the TCC

has not yet computerised its own financial system. The bills are then sent back to the TCC which distribute them later to subscribers. In issuing bills there is usually 2 - 4 months delay, particularly for installations outside Amman. The revenues are mostly collected by the TCC through its offices in cities and towns, and recently, some sort of arrangement has been made between the TCC and the Housing Bank to share the TCC collection through its branches in the Kingdom.

The financial statements have been conditioned in each of the Auditors Reports because of doubts about the correctness of the amount quoted for outstanding debts. The auditors have commented adversely on points such as:

a - the lack of control over billing data given to the Royal Scientific Society.

b - the absence of reconciliations between local records of outstanding bills with the general budget.

c - the maintenance of records of customers outstanding debts.

Moreover, in the present billing system, sufficient comprehensive management information on the incidence and amounts of different types of revenue earned do not appear to be available.

With reference to fixed assets, assets at present may remain in service after they have been fully depreciated in the books, and may some times be taken out of service

before they have fully depreciated. This means that the amounts included in the accounts may not be accurate. The annual depreciation charge is calculated by applying a percentage to the accumulated historical expenditure on each category. These percentages are based on the estimated average lives for each category. It may range from 7 years for vehicles to nearly 40 years for underground ducts.

The TCC's fixed assets are not recorded individually, and are not written out of the books when they are taken out of service. Capital expenditure is recorded by type of asset. There is no periodic reconciliation of balances on the capital expenditure accounts with the balances recorded in the general ledger. Payments in advance and retentions for contracts are not taken into account when expenditure is posted to the accounts. Finally, some confusion seems to arise about the ownership and responsibility for accounting for land which has been given to the TCC through other government agencies.

On the subject of stores, in the present stores accounting procedures there have been failings. In their reports the external auditors criticise the stores' acocunting procedures in many respects. The main criticisms being:

a - pricing of stores' issues do not follow the agreed policy.

b - stocktaking is not performed correctly.

c - stores' issues are not properly analysed and recorded.

d - no adjustements to stock balances is made for obsolete stores.

3.5.2 Managerial Autonomy

With regard to managerial autonomy, the TCC, as mentioned earlier, has been faced with an excessive control over its expenditure, revenues, recruitment, termination of employment, staff remuneration, the prices charged for its services...etc.

The Director General of the TCC does not have full control over staffing levels. His powers for disciplining staff are very limited since it should be within the accepted code of practice for government services. He doesn't have the authority to transfer expenditure between budget allocations. He has no means of assessing the profitability of services provided by the TCC, because the major decisions on the budgeting and financing of the TCC are made by the Council of Ministers. The TCC is still dependent on the government budgetary processes for its capital programme and current expenditure budget. Furthermore, it is integrated into the government's plans for economic and social development in the course of preparation. Administratively, TCC lacks the authority to adjust salaries to changing market conditions and, as mentioned above, cannot freely hire and dismiss staff. In

procurement, TCC is subject to Government administrative procedures which, we may say, are reportedly time consuming and ineffective.

We may conclude that excessive control over the operational decisions of the TCC has limited management's freedom, motivation and capability to respond to changing market conditions. The TCC, with its present status as a public corporation operating within the Telecommunications Corporation Law No. 29 of 1971, does not enjoy the financial and managerial autonomy as it was originally intended to have. Therefore, it has little opportunity to practice, or even to introduce, modern management philosophies and techniques.

3.6 The TCC Objectives

The operations of the TCC are generally related to the national interest since it has been assigned the responsibility for the provision of one of the basic infrastructural services. Therefore, the general framework of the TCC objectives have been set up in terms of the public interest. Section 5 of the Telecommunication Corporation law refers to the general framework of the TCC's objectives and its statutory duties. It states that:

"The corporation shall undertake the construction, development, operation and maintenance of cable and wireless communications networks in the Kingdom and it shall be responsible for carrying out all the work, operations and activities relating thereto. In order to realise its aims as specified in this Law and in any

regulations which may be enacted thereunder, the corporation shall cooperate fully with the competent ministries, departments and institutions, as well as with national bodies and with individuals."

The setting of objectives is the most obvious step in the process of performance measurement. These objectives should be determined and specified in a clear way because in the absence of clearly defined consistent and precisely communicated objectives for the enterprise, there will be many difficulties and problems in measuring the effectiveness of that enterprise. The term "effectiveness" applies to enterprise objectives and the extent to which these objectives are achieved.

The objectives which TCC is directed to achieve are clarified in the previous and current five year national economic and social development plans in terms of goals and targets. The Government's declared objectives for the telecommunications sector, as stated in the previous Five-year Plan (1981-85) are:

1. To upgrade the quality and efficiency of telecommunications services and guarantee the provision of adequate services on a permanent basis.
2. To recover all operating costs and generate additional revenues to finance new projects and debt services.
3. To increase the telephone penetration rate in different towns and villages as shown below (Table 3.1), with a view to meeting growing demand.
4. To provide an even and balanced geographical

distribution of telephone services in the country in such a manner as to cover most of the rural areas of Jordan and provide services to about 370 population centres with more than 500 people each.

5. To provide community telephone services to about 50% of the population centres with less than 500 people each. This will include about 360 centres.

TABLE 3.1

Telephones per 100 Population %

Cities/Towns/Villages	Actual Percentage 1980	Target 1985
Amman	5.0	20
Irbid	7.8	12
Zarqa	2.8	10
Aqaba	10.4	20
Salt	9.1	12
Ramtha	3.7	10
Mafraq	4.6	7
Jerash	9.8	14
Ma'an	8.8	12
Karak	16.9	17
Madaba	2.0	10
Large Villages	3.0	10
Medium Sized Villages	2.0	7
Small Villages	1.0	5

Source: Ministry of Planning, Five Year Plan for Economic and Social Development (1981-85).

6. To provide fully automatic national and international telephone direct dialling through international exchanges, earth stations and regional and national toll networks.

7. To extend telex services to all prospective subscribers and enlarge the capacity of the existing exchange to accommodate 4,000 subscribers.

8. To make telegraph services automatic and introduce Gentex facilities through the electronic telex exchange in Amman and TDM national circuits.

The basic equipment installation objectives of the (1981-85) Development Plan was completed by the end of the plan period, as we will see later in the next chapter. In the current 5YP (1986-90), the TCC goals are classified in more detail and grouped into five categories which cover all the aspects of TCC activities. They state these goals;

a) rationalization of TCC's organisational structure and upgrading of its operational and management capabilities.
b) the expansion of telecommunications services to meet unsatisfied demand and an increase in geographic coverage.
c) the automation of rural telephony and improvments to both regional and international services.
d) the enhancment of the network and reliability; and
e) the introduction of specialized and new value-added services.

TCC's investment programme was also drawn-up on the basis of the Government's Five Year Plan (1986-90). However, because of delays in implementation resulting from

shortage of funds, TCC had to revise the original (1986-90) programme and extend its implementation to 1992. On this basis a more realistic and achievable telecommunications investment programme for the period (1988-1992) was finalized and agreed.

The main objective of the TCC for the (1988-92) period is to increase installed exchange capacity from 295,000 lines (as of the beginning of 1988), to 513,000 lines (at the end of 1992), i.e. an average growth rate of 10% per year. Over the same period, the number of connected DELs would increase from 203,000 to 400,000 lines or 14.5% per year. The objective of planned system expansion is to meet 82% of unsatisfied demand, whilst increasing geographic coverage to rural areas.

One of the TCC's general objectives in providing a modern digital network for the (1988-92) period, is to facilitate the future provision of a range of advanced telecommunications services, which will be required by the development sectors of the economy. Education, industry tourism,health care, agriculture, transportation, business, banking and government will all increasingly demand various forms of video, text and data communications to support the use of modern information technology systems.

From the above review of the TCC's goals in the previous and current Five Year Plans, it can be seen that the role of the telecommunications network within the

Government's general planning objectives of creating a strong infrastructure to support national socio-economic development is easily identifiable.

However, for the purpose of performance evaluation, the above goals and objectives need to be quantified, i.e. translated into targets for resource use and outputs, or expected performance based upon realistic assessments of what is feasible for the TCC, since a performance criterion is simply a quantifiable expression of the objectives of the enterprise in general. Problems arise when some of the objectives are difficult to quantify and when agreement cannot be reached on the trade-offs (relative weights or prices) to be used in aggregation. Measuring the TCC performance by means of examining the extent to which its objectives are achieved will be done in the next chapter.

3.7 Summary

TCC was established in 1971 as a semi-autonomous Government-owned Corporation. The Board of Directors, chaired by the Minister of Transport and Communications, is respnsible for TCC's policy and administration. TCC's Director General, who is appointed by the Council of Ministers, is also Deputy Chairman and Chief Executive in charge of TCC's management and operations. There is no private sector representation on the Board. The Law (Section 7) allows for two Board Members from the private sector appointed by the Government, but these have,

instead, been selected from the academic field. The effectiveness of the Board is very much dependent on the Chairman, who has the main authority to call for Board meetings.

Although TCC has in the statute books financial and administrative autonomy (Section 3), it remains truely a public sector institution governmented by the Civil Service By-law and fiscally tied to the Government General Budget for both investment and operating expenditures. TCC's present Corporate Law grants the entity management and control of its own financial resources, and the freedom to deposit its funds in commercial banks (Sections 14 and 15). But in practice, TCC has no treasury function, nor has it control over its revenues. Its major acocunt is with the Ministry of Finance with minor accounts for operating cash and for settlement of contract retentions with the Central Bank of Jordan. Administratively, TCC lacks the authority to adjust salaries to changing market conditions and cannot freely hire and dismiss staff. In procurement, TCC is subject to the Government administrative procedures which are reportedly time-consuming and ineffective.

The existing structure of TCC reflects a highly centralised functional/regional organisation biased towards operation with less emphasis on corporate planning and business development. There is no clear demarcation of operational responsibilities between headquarters and regions.

TCC operates on a zero-base budget, as other Government agencies. Operating and investment expenditures are authorized annually through the Government's budget law. At the end of each fiscal year, the balance of TCC's generated funds, less expenditure, is automatically transferred to the Government budget. Investments are subject to the Government's Five Year Plans.

TCC does not have its own computer facilities but utilizes instead the computer centre of the Royal Scientific Society. Consequently processing telephone applications and connecting new subscribers lag behind exchange and cable network construction and result in low capacity utilization for some exchanges. Monitoring and reporting data for operations and customer service are fragmented and not regularly collected and processed. Furthermore, the reliance on the services of an external computer centre sometimes causes delays in processing telephone bills (issued monthly) and hinders monitoring of payments and accounts receivable.

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APPENDIX 3.i

TELECOMMUNICATIONS CORPORATION LAW

No. 29 of 1971

WE, HUSSEIN THE FIRST, KING OF THE HASHEMITE KINGDOM OF JORDAN

In accordance with Article 31 of the Constitution, and on the basis of the decision taken by the Senate and House of representatives do hereby ratify the following Law and order its promulgation and addition to the laws of the State.

LAW NO (29) OF 1971

TELECOMMUNICATIONS CORPORATION

SECTION 1

This law shall be cited as the "Telecommunications Corporation Law of 1971", and it shall come into effect as from the date of its publication in the Official Gazette.

SECTION 2

The following words and expressions whenever used in this law shall have the meanings assigned thereto hereunder unless the context indicates otherwise:

1.	Kingdom	The Hashemite Kingdom of Jordan.
2.	Government	The Government of the Hashemite Kingdom of Jordan.
3.	Corporation	Telecommunications Corporation which is

		established under this law.
4.	Minister	The Minister of Communications.
5.	Telecommunications	All civil communication connections between one point and another including all networks, kinds and systems of oral, written and visual communications, and the transmission of messages by classification and decoding, and all other types of communications which the Council of Ministers may decide to place under the competence of the Corporation and operational works and providing the services arising from the Corporation's work or which may be required for that work including all matters relating to Telephones, Telegraphs, Telex, TV and similar work.
6.	Subscriber	Any person, body or institution which has concluded an agreement with the Corporation for making use of the Communications services offered by the Corporation.
7.	The Board	The Board of Directors of the

	Corporation which is constituted in accordance with the provisions of this Law.
8. Director General	The Director General of the Corporation who is appointed with the provisions of this Law.

SECTION 3

A corporation to be known as "The Telecommunications Corporation" shall be established in the Kingdom for all cable and wireless communications and it shall be a corporate body represented by the chairman of the board and shall have financial and administrative independnece and it may, as such, enter into litigation as plaintiff or defendant, and acquire and dispose of moveable and unmoveable property, and it may appoint the Attorney General or any other person to represent it in litigation.

SECTION 4

The head office of the Corporation shall be in Amman, and it may open offices in any place in the Kingdom.

SECTION 5

The Corporation shall undertake the construction, development, operation and maintenance of cable and wireless communications networks in the Kingdom and it shall be responsible for carrying out all the work, operations and ctivities relating thereto. In order to realise its aims as specified in this law and in any

regulations which may be enacted thereunder, the Corporation shall cooperate fullly with the competent ministries, departments and indstitutions, as well as with national bodies and with individuals.

SECTION 6

a. The Corporation shall gradually take delivery from the Minitry of Communications of cable and wireless communications networks and supplementary equipment, as well as all supplies and equipment found in the warehouses of the Ministry, within a period to be prescribed by regulations.

b. The ownership of every building which is state property and which is occupied by the Ministry on the date of coming into effect of this law shall revert to the Corporation, provided that the area occupied by the technical section (other than posts and administration) in such a building exceeds 50% of the total area of the buiding, and that the remaining area in the building shall be leased to the Department of Posts for a symbolic rental charge to be determined by the Minister. Otherwise the building shall continue to be the property of the State, and the part thereof which is occupied by the technical section shall be leased to the Corporation on the same basis.

In the case of dispute, the Minister's decision shall be final.

SECTION 7

a. The administration of the Corporation and the supervision of its work shall be assumed by a Board of Directors consisting of:

1. The Minister - Chairman.
2. Director General of the Corporation - Vice Chairman.
3. Secretary General of the National Planning Council - Member.
4. Director of the State Budget Department or his delegate - Member.
5. Undersecretary of the Ministry of Communications- Member.
6. Undersecretary of the Ministry of Transport- Member.
7. Chief Signal Officer/Jordanian Armed Forces - Member.
8. Two Members elected by the Council of Ministers from the private sector.

b. The Chairman and every member of the Board shall be paid remuneration the amount of which shall be determined by regulations.

SECTION 8

The powers of the Board of Directors shall be as follows:

a. Formulate and direct the policy of the Corporation, and follow up the implementation of such policy and supervise the various activities of the Corporation.

b. Study the programs and projects recommended by the General for the development of the cable and wireless network and the work of the Corporation, and submit them to the Council of Ministers for approval.

c. Study and approve the draft annual budget and any amended or supplementary budgets recommended by the Director General and submit them to the Council of Ministers for approval.

d. Grant the financial authorisation and other powers to any bodies which it may deem appropriate and cooperate with them towards that end in any way, with the approval of the Council of Ministers and subject to the provisions of the laws in force.

e. Conclude agreements with Arab and foreign states and institutions for connecting the cable and wireless network with the networks of these states and institutions and cooperate with them for that purpose in any manner whatsoever with the approval of the Council of Ministers and subject to the provisions of the laws in force.

f. Conclude agreement with such experts, consultants, engineers, accountants, lawyers and bodies as it may deem fit, in order to carry out any studies and to implement or improve work of the Corporation and ensure its efficientadministration and the effective

conduct of activities at the minimum cost.

g. Purchase, lease, acquire and sell real properties, supplies and equipment which are necessary for the work of the Corporation, in accordance with the laws in force and with any regulations applicable to the Corporation.

h. Conclude loans with Arab and foreign states and local Arab and International companies and institutions, after obtaining the approval of the Council of Ministers.

i. Issue loan debentures within the limits of the types of debentures specified in the Public Loan Act, provided that the value of such debentures shall not exceed 15% of the fixed assets of the Corporation and in accordance with special regulations to be enacted by the Council of Ministers upon the recommendation of the Board.

j. Form committees and appoint the members therof from within the Corporation or outside it, and charge of from with carrying out any tasks which may assist the Board in the performance of its functions under the law.

k. Determine the list of standard charges payable for the services of the Corporation in accordance with special regulations to be enacted by the Council of Ministers upon the recommendation of the Board.

l. Submit an annual report to the Council of Ministers regarding the activities of and the work accomplished by the Corporation during the last financial year and

the final accounts of the budget of the Corporation.

m. Carry out any work and adopt any measures which the Board mayecessary, useful or appropriate for the achievement of the objectives of the Corporation or the exercise of the powers of the Board as prescribed under this Law.

SECTION 9

a. The Board will meet regularly on the basis of a written invitation from the Chairman of the Board, or from the Vice-Chairman in case of the absence of the Chairman. The Board may hold a meeting at any time, if necessary on the basis of a written invitation as aforesaid or on the basis of a request in writing of at least 4 members indicating the reasons for the meeting.

b. If any member of the Board or any of his direct descendants or ancestors has any interest or benefit in any contract or project which the Board intends to conclude or execute he must inform the Board of such interst or benefit and a record thereof shall be included in the minutes of that meeting. The board may decide that such member shall not take part in the discussions and decisions of the Board on the subject, if he himself does not refrain from participating in the discussions and decisions.

c. The Board may invite any person to participate in

its meetings and discussions provided that such person shall not have the right to vote.

SECTION 10

a. The meeting of the Board shall be considered legal if attended by five members at least including the Chairman or Vice-Chairman.

b. The Minister shall preside over the meetings of the Board. In case of his absence, the meetings of the Board shall be presided over by the Vice-Chairman.

c. The resolutions of the Board shall be adopted by a majority of five votes. In case of a difference of opnon which prevents the Board from adopting a decision, the Chairman shall have the right to refer the matter to the Council of Ministers whose decision shall be final.

SECTION 11

a. A Director General of the Corporation shall be appointed. His appointment and the termination of his service shall be effected by the Council of Ministers with the approval of the King. The Council of Ministers may prescribe in the regulations which may be enacted for the purposes of this law any conditions regarding the appointment and termination of services of the Director, and the determination of his salary,

allowances, rights and duties as it may deem fit.

b. The Director General shall be responsible to the Board for the implementation of the general policy and programs adopted by the Board, and for the conduct of the work of the Corporation, and he must devote his efforts to his work exclusively and may not accept any other work or engage in any commercial activities.

SECTION 12

The duties and powers of the Director General shall be as follows:

1. Assist the Board in developing and formulating short and long term plans.
2. Supervise all cable and wireless communication operations in accordance with the policy adopted by the Board, as well as their efficient and economic execution, administration, operation and maintenance.
3. Furnish the Board with all the necessary information and data to enable it to carry out its functions.
4. Develop programs which conform with the aims of the Corporation and submit recommendations withregard thereto.
5. Submit regular semi-annual reports to the Board and whenever necessary regarding the general results of the operations, the financial and general positions of

the Corporation and all other matters of importance.

6. Carry out the functions entrusted to him under his law and any regulations enacted thereunder as well as any instructions issued by the Board.

SECTION 13

The Director General may delegate any of his powers to any of his assistants in writing and with the approval of the Board.

SECTION 14

a. The Corporation shall have an independent financial existence, and its budgets shall be prepared independently of the State budget. Its revenues shall be derived from the following resources:

1. The funds allocated to it in the General State Budget.
2. Government loans which are allocated to it by contracts or any loans which it may obtain from any source with the approval of the Council of Ministers.
3. Revenues arising from the services which it renders.
4. Proceeds of loan debentures which it may issue.
5. Any source which may furnish it with funds, materials, equipment, assistance, grants or loans with the approval of the Council of Ministers.

b. If any savings are realised in the budget of the Corporation at the end of the financial year, which savings are not required by the Corporation in its budget for the ensuing year, the Council of Ministers shall decide on the manner in which such funds shall be disposed of.

SECTION 15

The Board may deposit the funds of the Corporation in commercial banks, unless the Council of Ministers decides otherwise.

SECTION 16

Until such time as special regulations for the Corporation are enacted the Financial Regulations and the Supplies Regulations shall be applied thereto.

SECTION 17

a. The transfer of civil servants and employees from the Ministry of Communications to the Corporation shall be effected on the basis of the recommendations of an advisory committee composed of a representative of the Ministry, a representative of the State Budget Department, a representative of the Corporation and a representative of the Civil Service Commission with the approval of the Minister. In case of any dispute

which cannot be settled in this regard, the Minister's decision shall be final with respect to all civil servants, and employees excluding Grade 1 civil servants whose cases shall be referred by the Minister to the Council of Ministers for a decision.

b. The civil servants who are transferred to the Corporation from the Ministry or from the Ministries, Departments or Institutions of the Government shall retain all the rights which they had acquired under the laws and regulations in force. The civil servants who are subject to the Civil Service Pension law will continue to benefit from the law pending the enactments of laws and regulations organising the Corporation personnel affairs.

c. Special regulations government the Corporation's employees and civil servants shall be enacted by the Council of Ministers on the recommendation of the Board. The Civil Service Regulations shall apply temporarily pending the enactment of the said regulations.

SECTION 18

The accounts of the Corporation shall be audited by a representative of the Audit Bureau in conjunction with licensed auditors appointed by the Board.

SECTION 19

The Council of Ministers may, upon the recommendation of the Minister, enact the necessary regulations to regulate the work of the Corporation and its financial affairs, contracts, equipment and supplies, and the affairs of its civil servants and employees, and any other matters related to the implementation of this law.

SECTION 20

The provision of any law or regulations which conflict with the provision of this law are hereby repeated to the extent of such conflict.

SECTION 21

The Prime Minister and the Ministers are responsible for the implementation of the provisions of this law.

H. M. THE KING

H. E. THE PRIME MINISTER

CHAPTER 4

Judging by Objectives

4.1 Introduction

Public enterprise is expected to fulfil many objectives: generate a financial surplus; help reduce unemployment; develop skills; and contribute to growth, technical progress and correction of regional imbalances. The dilemma of where to start in evaluating activities is therefore largely due to the fact that government often has a number of short-term and long-run objectives in mind when such enterprise is established.

Regarding the TCC, we intend in this chapter, to measure and evaluate the success or failure of the TCC in achieving its multiple objectives set out in the previous 5 YP (1981 - 85), for economic and social development, bearing in mind the issues discussed in the previous chapter. Thus, judgements by the objectives will be the primary purpose of this chapter.

The structure of this chapter will be as follows. In section 2 we will examine the structure and technology of the TCC network. In section 3, the development of Jordan's telecommunications network will be investigated. In Section 4, the telephone tariff structure will be presented, and in section 5, traffic distribution and

variations will be analyzed. In section 6, the quality of services and subscriber's behaviour will be investigated. Measuring and evaluating the TCC performance in achieving its obejectives will be done in section 7, while the final section is devoted to concluding comments.

4.2 Structure and Technology of the TCC Network

Jordan's telecommunications networks are considered to be one of the modern Integrated Digital Networks in the area. The installed capacity of the networks is 264,836 Direct Exchange Lines (DELs) as of April 1987. 92% of them are connected to digital exchanges.

The exchanges are elctronic, and as Table (4.1) shows, they include seven FETEX-100 (F-100) stored programme control (spc) reed relay exchanges, and eleven digital units of types FETEX-150 (F-150) and E10B, besides five semi-electronic exchanges of the PENTEX type.

Jordan is characterized by a great imbalance of (population) density between Amman and the rest of the country. This is mainly due to the concentration of economic activity in the area of the capital. Out of the total number of DELs, 167,104 are installed in nine exchanges within the area of Amman, while the remaining (97,732) DELs are divided among ten electronic exchanges and the five PENTEX exchanges outside Amman.

TABLE 4.1

The Local Exchanges and Their Respective Capacity as of April 1987

EXCHANGE	CAPACITY		TYPE
Central 2	14,000		F100
Central 3	39,000		F150
Marka	9,000		F100
Sweileh	8,000		F100
Wadi Essir	12,000		F100
Ashrafieh 2	26,464		E10B
Ashrafieh 3	21,640		E10B
Abdali 1	17,000		F100
Abdali 2	20,000		F150
Sub Total AMMAN		167,104	
Marj El-Hamam	6,000		F150
Zarqa	29,256		E10B
Irbid 2	10,000		F100
Irbid 3	20,240		E10B
Jerash	6,620		E10B
Salt	6,816		E10B
Madaba	3,320		E10B
Aqaba	5,180		F150
Karak	2,000		F100
Tafileh	2,000		PTX
Ma'an	2,000		PTX
Wadi Musa	1,000		PTX
Shobak	300		PTX
UmEl-Amad	1,000		PTX
Queen Alia Airport	2,000		E10A*
Sub Total Outside Amman		97,732	
Total		264,836	

Note:

F100 FETEX - 100 (Fujitsu)	ANALOGUE
F150 FETEX-150 (Fujitsu)	DIGITAL
E10B E-10B (Alcatel	DIGITAL
E10A E-10A (Alcatel)	DIGITAL (PBX)
PTX PENTEX (Plessey)	ANALOGUE

* Belongs to the Royal Jordanian
Source : Traffic and Investment Department / TCC.

The exchanges outside Amman are connected in a network centred on the National Switching Centre (NSC) which acts as a doorway between Amman and the rest of the country. The NSC is an E10B switch and has an installed capacity of 4500 trunks. The International Switching Centre (ISC) is a digital switch of type MT-20. Its installed capacity is for 3400 trunks of which about 600 are utilized for international routes, and 1115 for routes towards the national network. In addition to the above, there is a switch for mobile telephony of the type NEAX-61 (NEC), with a capacity of 2,000 mobile units.

The transmission network is predominantly digital, while the route between Amman and Aqaba is analogue. The long distance network is dominated by microwave links, and the trunks between main exchanges and remote units are mostly carried on microwave links and the junction network in Amman is a mix of cable and microwave. In the north of the country, the rural areas around each E10B main exchange are currently served through Remote Line Units (RLUs). This strategy (RLUs) will also be followed elsewhere in the network, so long as the F-100s remain in service.

International traffic is carried over three satellite earth stations. Two of them work with the Atlantic and Indian ocean Intelsat system and a third one works with the Arabsat system. Out of 1224 circuits available, the total number of working circuits through these satellite stations

was only 570 circuits in 1987: 220 with ARABSAT, 257 with INTELSAT (Atlantic ocean) and the rest (93 circuits) with INTELSAT (Indian ocean). Jordan had a direct connection with 74 countries in 1987, with another 73 routes connected directly with the international exchange in Amman. Moreover, there is an analogue microwave link to Damascus (Syria) and to Baghdad (Iraq). The national and regional telephone transmission network is shown in Figure (4-1).

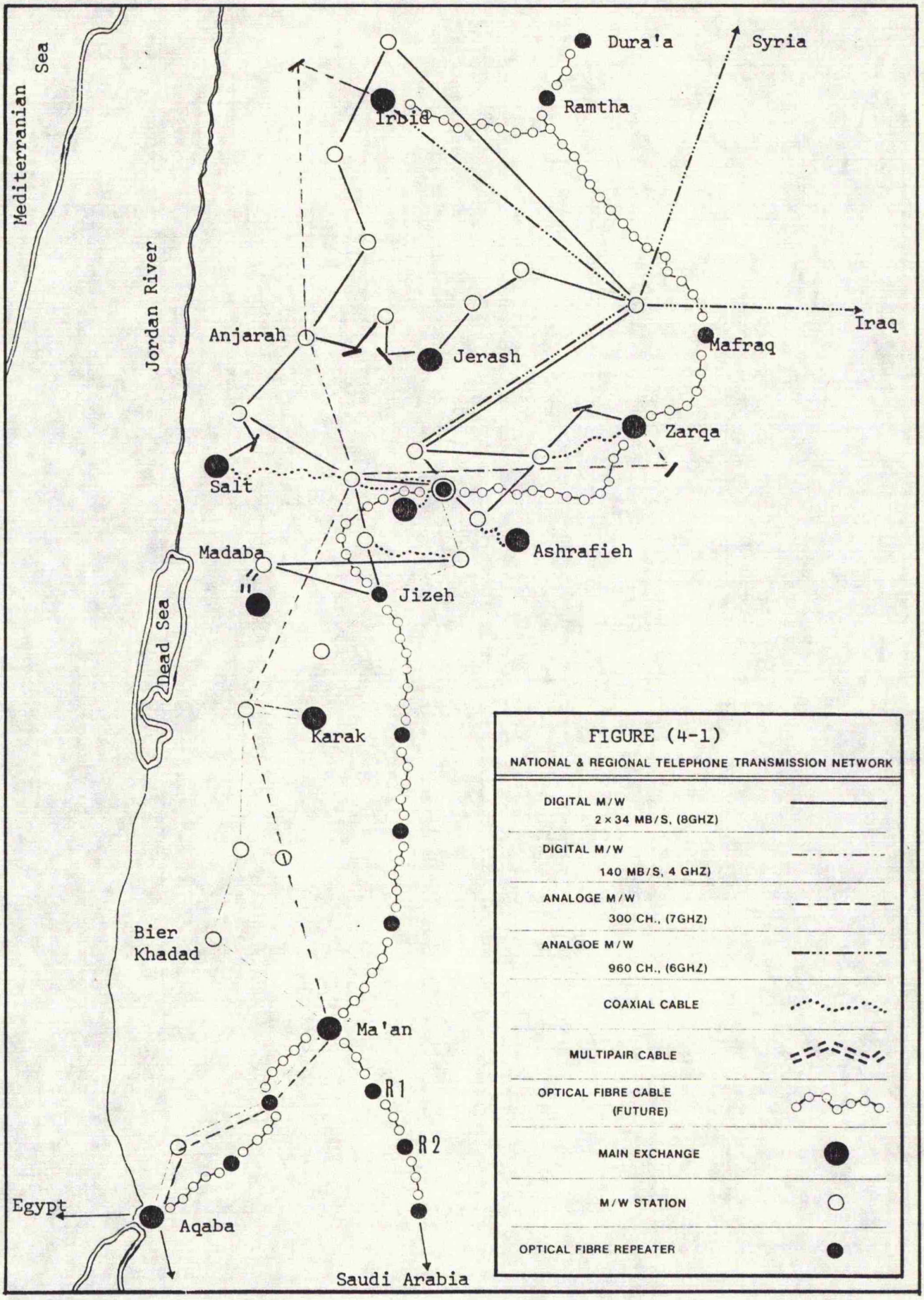
The regional transmission plan will add significantly to the number of international trunks available. The plan comprises two links:

a) a cable link. This link will be implemented as an optical fibre cable, and will be routed Damascus-Amman-Ma'an-Saudi Arabia, with a major spur route Ma'an-Aqaba.

b) a microwave link which will connect Amman with Aqaba, and from there with Saudi Arabia and Egypt. This link will also be used for domestic purposes and will eventually replace the present analogue link between Amman and Aqaba.

4.3 Development of the Jordanian Telecommunications Network

The task of providing telephone and telex services to the whole national territory was the overriding objective for the TCC during recent years. The progressive digitalisation of the network in the years of the previous 5 YP (1981-85) increased the capabilities of the basic network, leading to a remarkable increase in the number of


Mediterranian Sea
Jordan River
Dead Sea
Dura'a
Syria
Ramtha
Irbid
Anjarah
Jerash
Mafraq
Iraq
Zarqa
Salt
Ashrafieh
Madaba
Jizeh
Karak
Bier Khadad
Ma'an
R1
R2
Egypt
Aqaba
Saudi Arabia
FIGURE (4-1)
NATIONAL & REGIONAL TELEPHONE TRANSMISSION NETWORK
DIGITAL M/W 2×34 MB/S, (8GHZ)
DIGITAL M/W 140 MB/S, 4 GHZ)
ANALOGE M/W 300 CH., (7GHZ)
ANALGOE M/W 960 CH., (6GHZ)
COAXIAL CABLE
MULTIPAIR CABLE
OPTICAL FIBRE CABLE (FUTURE)
MAIN EXCHANGE
M/W STATION
OPTICAL FIBRE REPEATER

telephone and telex subscribers. The number of telephone lines in operation is totalled 202,908 as at the end of 1987. The bulk of the telephones (two thirds) are in the Amman area which has only 41% of the population as shown in Table (4.2), and that explains why the majority of telephone calls are made to, and within, the Amman area. However, there has been a drop in the number of telex subscribers over the last two years, mainly due to the introduction of the facsimile service in late 1985 which has increased rapidly. (The number of facsimile machines installed in 1987 was 900 units).

Like many other telecommunications entities, TCC is divided between telephone subscribers and applicants, depending on the purpose for which their telephones are likely to be most often used. For tariff purposes, these are divided into residential and non-residential categories (businesses and private branch exchanges PBX). The actual distribution of the telephone subscribers was calculated for the Amman area in January 1986 by the traffic and investment department/TCC and the results obtained were as follows :

72% residential (66.065 subscribers)

25% business (23,400 subscribers)

3% PBX (private branch exchange)

TABLE 4.2

Regional Distribution of Telephone Service as of December 1987

Network	DELs in service	Population (100)*	% of DELs	% of Population	No. of DELs per 100 Population
Amman	128134	11719	63.1	41	10.9
Zarqa	18611	4517	9.2	16	4.1
Irbid	16666	2659	8.2	9	6.3
Salt	6158	1268	3.1	4	4.8
Madaba	5895	929	2.9	3	6.3
Mafraq	3582	1012	1.8	4	3.5
Aqaba	3497	416	1.7	1	8.4
Ramtha	2883	550	1.4	2	5.2
Jarash	2636	815	1.3	3	3.2
Ajloan	1784	664	0.9	2	2.7
Ma'an	1980	553	1.1	2	3.6
Dair Abi Said	1834	1052	0.9	4	1.7
Hanina	1802	813	0.9	3	2.2
Rest of Country	7446	1625	3.4	6	4.5
Total	202908	28592	100	100	7.1

* Based on the final results of the housing and population concensus as of November 1979/Department of Statistics

The real distribution for the rest of the subscribers in the country is difficult to obtain in the absence of computerization of the whole process which could provide such information. In terms of revenue, distribution by user group is also difficult to get since the current billing system does not differentiate between business and residential telephones. But, based on the above results, it

is estimated that 75% of the subscribers in the multi-exchange areas (Amman, Zarqa, Irbid) are residential and 25% are businesses and PBX. The proportion of residential telephone lines is tending to increase in the other cities and villages in the Kingdom, because of the narrowness of commercial activities there. It is estimated by the Traffic and Investment Department that the percentage of the residential telephone subscribers is around 80% in the cities and 90% in the villages and rural areas.

Even in the Amman area, which had seven exchanges at the time of the above study, it is noted that the proportion varies greatly with exchange location. It ranged from 42.4% for the residential subscribers in the central 2 exchange to more than 85% in Wadi-Essir exchange as shown in Table (4.4).

4.4 The Telephone Tariff Structure

The following tariff had been in operation since the end of 1986.[1]

4.4.1 Installation fees : A non-returnable fee payable according to the following classification:

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(1) These tariffs and fees are charged according to the telephone system. No. 50 of 1983, based on Section 8, paragraph K and section 19 from the TCC law No. 29 of 1971.

TABLE 4.3
THE DEVELOPMENT OF TELEPHONE AND TELEX SUBSCRIBERS

	1	2	3	4	5	6	7
End of Year	DELs in service	Growth Rate %	Telephone Per 100 population	No. of DELs in Service in	As % of the total No. of telephone	No of telex subscribers	Growth Rate
1971	18000					46	
1972	18620	3.4				53	15.2
1973	22242	19.5				100	88.7
1974	28195	26.8				214	114
1975	33441	18.6				312	45.8
1976	35098	5				516	65.4
1977	41012	16.8				52	1.1
1978	44508	8.5				834	59.8
1979	52356	17.6				1023	22.6
1980	60533	15.6	2.7	42771	70.6	1238	21
1981	71641	18.3	3.1	48424	67.6	1567	26.5
1982	86074	20.1	3.6	56166	65.2	1857	18.5
1983	98175	14	3.9	63972	65.1	2163	16.5
1984	119340	21.5	4.6	86129	72.1	2459	13.7
1985	144972	21.5	5.4	92358	63.7	2702	9.9
1986	171951	18.6	6.1	106839	62.1	2612	-3.3
1987	202908	18	7.1	128134	63.1	2592	-0.7

* Source : For columns 1 and 6: Traffice and Investment Department/TCC
Column 3 based on the final results of the housing and popultion consersus as of November 1979/Department of Statistics
Columns 4 from the TCC annual report 1987.

TABLE 4.4
Distribution of Subscibers in Amman Area on Residential, Business, and PBX as of January 1986

Exchange	Total Number of Subscribers	Total as % of Amman area	Residential Subscribers	Business subscribers	PBX
Central 2	12844	13.9	5446	6618	780
Percent			42.4	51.5	6
Central 3	18129	19.6	12852	4801	476
Percent			70.9	26.5	2.6
Abdali	15016	16.3	10917	3245	854
Percent			72.7	21.6	5.9
Ashrifiya (2+3)	21686	23.5	16780	4785	121
Percent			77.4	22.1	6
Wadi Essir	11061	12	9457	1174	430
Percent			85.5	10.6	3.9
Sweileh	5772	6.2	4678	964	130
Percent			81	16.7	2.3
Marka	7850	8.5	5935	1813	102
Percent			75.6	23.1	1.3
Total	92358	100	66065	23400	2893
Percent			71.5	25.3	3.2

* Source : Traffice and Investment Department/TCC

Type of Service	JD
Residential	100
Businesses	200
PBX	230
Mobile Communications	750 (effective from Nov. 1986)

If the subscriber's premises are situated outside the municipality border, then he will be charged additional fees as follows :

15 JD for each 50 metres up to 5,000 metres.

20 JD for each additional 50 metres.

The subscriber will be charged another 5JD if he delays in paying the bill, 10 JD if he or one of his line users disturbs other subscribers, 5JD for the change of a business subscriber's commercial name. 1/2 JD for a change of address.

For leased local lines:

200 JD per connection line between subscriber and exchange.

360 JD per junction line between two exchanges.

Additional fees if the subscriber is located outside the municipality border are the same as above for ordinary telephone lines.

4.4.2 Subscription fees : the following yearly subscription fees apply:

Type of Service	Yearly Subscription/JD
Residential	24
Businesses	36
PBX	48
Leased Connection Line	100
Leased Junction Line	180
Mobile Communications	500 (effective from Nov 1986)

There is 1 JD additional fee for each 50 metres outside municipality border up to 5,000 metres, and 1.25 JD for each additional 50 metres. As can be seen, the business subcriber pays installation fees of 100% more than the residential subscriber and 50% more for the subscription fee.

4.4.3 Call charges: Generally a principle has been traditionally accepted that charges for calls should increase with distance. This principle is based on:

a) Cost of service. Long distance calls are generally more costly than calls within a local exchange because they involve more than one exchange and they include local service area costs of sending and receiving, besides the cost of long distance transmission and switching. With regard to the new telecommunications technology, the cost of international services in particular, using satelite communications, is essentially independent of distance. But once the transmission reaches the satellite earth station, costs then tend to lag out as distance increases.

b) Value of service. As distance increases, the number of alternatives to telecommunications for fast and easy communications tends to decline and the cost of such alternatives tends to increase.

4.4.3.i Local calls : these are calls within an exchange area, or within the metropolitan area. Calls are recorded in terms of "pulses". For each call, there is one pulse and one additional pulse per every 6 minutes. Commencing 1st January 1986, the first 2,000 pulses per year were free of charge and before that, only 1,000 pulses per year were free. 10 fils[1] are charged for each additional pulse.

The distribution of call range by number of subscribers for the Amman area in 1986 is shown in Table (4.5). The Amman multi-exchange area is considered as one local area in this context. As can be seen, the majority of subscribers do not reach the 2,000 free pulses , only 43.49% of subscribers having more than 2,000 pulses.

4.4.3.ii National calls: The charge rate for national calls depends on distances between exchanges as shown in Table (4.6)

(1) 1JD is divided to 1000 fils.

TABLE 4.5

The Distribution of Local Calls for the Amman Area, as of December 1986

Call Range	No. of Subscribers	%
< 1,000	29,750	29.20
1000/2000	27,818	27.31
	57,568	56.51
2000/3000	17899	17.57
3000/4000	10194	10.00
4000/5000	5968	5.86
5000/6000	3464	3.40
6000/7000	2193	2.15
7000/8000	1438	1.41
8000/9000	934	.82
9000/10000	627	.62
10000/11000	405	.40
11000/12000	262	.26
12000/15000	462	.45
15000/17000	139	.14
17000/20000	131	.13
20000/22000	53	.05
22000/30000	95	.09
30000/32000	12	.01
> 32000	32	.03
Total	101876	99.9

Source : Traffic and Investment Department/TCC

TABLE 4.6

Rate of Charge for National Calls

Distance	Rate for the first 3 mins.	Rate for additional minute
- < 20 KM	60 fils	20 fils
20 - 40 KM	90 fils	30 fils
40 - 80 KM	150 fils	50 fils
80 - 160 KM	210 fils	70 fils
160 - 280 KM	240 fils	80 fils
280 > .. KM	300 fils	100 fils

Source : TCC

Half rate is applied for night calls from 20.00 to 07.00 hours. For those calls originating from (RLU's), connected to E10B exchanges, a pulse metering system is applied for traffic terminating within the same local exchange area, with rates corresponding to national calls above. These pulses are added to the local calls and thus charged at 10 fils per pulse when the total number exceeds 2000 per year.

For the Mobile Telecommunications Service (MTS) subscribers, there is a 10 fils charge per minute between MTS subscribers and ordinary subscribers located within the MTS areas, which at present comprise Amman and the surrounding areas. The minimum rate is 1 minute, and a half rate operates during night hours 20.000 - 07.00.

4.4.3.iii Leased circuits in the national networks: Charges for leased circuits in the national network also depend on distance as shown below.

Distance	Fixed Rate Per Month
.. < 20 KM	40 JD
then each 10 KM after the first 20 KM	20 JD

In addition, a traffic rate is applied as follows:

- point to point telephone circuit: As for 6000 minutes of national calls per month
- DATA/AUDIO circuit As for 9000 minutes of national calls per month.

4.4.3.iv International Calls. Automatic international calls are charged per minute according to Table (4.7). The minimum rate is for 1 minute. Manual calls are charged according to the same Table, but with a minimum fee of 3 minutes. A special night rate between 00.00 - 08.00 was applied from the 1st December 1986, with a general reduction also of the originating international rates. This led to an increase in the number of minutes for international calls by 14.7%, from 21,412,265 minutes in 1986, to 24,556,928 minutes at the end of 1987. The effect of the new tariffs with reduced rates during night hours was examined. In April and May 1986, the outgoing night traffic between 00.00 - 08.00 to abroad was 4.5%

of the total international traffic. Two measurements were taken after the changes in tariffs, the first two weeks in December 1986, and in February 1987, the results were significantly higher than before, with the proportion of outgoing night traffic rising to 7.8% and 8.2 respectively.

TABLE 4.7

International Telephone Charges as of December 1986

Countries	Standard Rate JD	Night Rate JD
Iraq, Syria	-/300	-/210
Bahrain, Egypt, Kuwait, Lebanon, Oman, Quator, Saudi Arabia, U.A.E. Yemen A. R.	-/450	-/310
Algeria, Djibut: Libya, Mauritania, Moroco, Samali, Sudan, Tunisia, Yemen D.R.	-/600	-/420
Austria, Belgium, Bulgaria, Cyprus Czechoslovakia, Denmark, Finland, France, Germany D.R., Germany F. R., Greece, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Roumania, Spain, Sweden, Switzerland, Turkey, U.K. Yugoslavia	1/-	-/700
Albania, Azores Island, Canary Island, Ferao Island, Gibralta,Greenland, Iceland	1/200	-/840
Canada, U.S.A.	1/250	-/870
Rest of the World	1/500	-1/050

Source : TCC

4.5 Traffic Distribution and Variations

A traffic distribution for outgoing international calls was calculated for July, September, November, and December 1986, and for January 1987. It was found that 61% was to Saudi Arabia, Syria, Egypt and Kuwait, 18% to U.S.A. and U.K. and the rest to other countries. Amman area makes 81.38% of the international calls, since 63% of the total number of subscribers are in the capital area. Also, because Amman is the capital and the centre of administrative and economic activities, subscribers outside the Amman area need to make calls to other subscribers in Amman and they are charged according to the national call tariff structure while the calls of subscribers in the Amman area to other subscribers in their area are considered local calls and are charged according to the local calls tariff structure which is cheaper than the national one.

Therefore, Amman subscribers have relatively less expenses for national traffic, and the large amount of free local calls (2000 per year) creates an "unfair" distribution of subscriber's cost for telephone services between the Amman subscribers, who make the bulk of local calls, and the rest of the subscribers outside the Amman area. Since the Government intends to encourage economic activity outside Amman, the marginal cost of telephone services to subscribers should be reviewed to achieve greater equality between Amman and the rest of the country,

e.g. by having a higher cost for local calls and a reduced rate for national calls.

Concerning traffic variations, several investigations have been performed to identify variations which might be different for different exchanges and routes. A traffic measurement was undertaken within the Amman area from July 1985 to July 1986. These measurements point out that the July traffic represents the highest level of all kinds of traffic which has also been confirmed from other investigations in other exchanges outside Amman. During the week days, the measurements indicate that the beginning of the week (Saturday and Sunday) accounts for 32% of the whole weekly traffic while the weekend (Friday), accounts for only 8% of the total weekly traffic.

Variations of traffic during the day has been followed up in Amman in 1986, and the results show that the busy period regarding local traffic for the whole period under investigation is between 10.00 to 13.00 hours, and the peak hour is between 11.30 - 12.30. With respect to national traffic, measurement has been completed for the NSC for two weeks in September 1986. The results show that there are two peak periods: the morning period between 10.00 - 12.00, and the evening period between 18.00 - 20.00.

For international calls, the Friday traffic follows very much the same pattern and level as the average for weekdays, which indicates that international traffic

contains a surprisingly high proportion of private traffic. Latest measurement performed in February 1987 has confirmed that international traffic has a peak hour in the evening between 19.00 - 21.00 and is thus dominated by private traffic, mainly to and from the neighbouring Arab countries, where about 350,000 Jordanian workers are working.

4.6 The Quality of Services and Subscriber's Behaviour

An investigation into the quality of service provided by TCC and the subscribers' telephone habits has been carried out by TCC by collecting so-called subscribers sample observations from a number of exchanges in the multi-exchange cities (Amman, Zarqa, Irbid) in July 1987. 2172 call attempts were registered. The following are the results of the call attempts:

- 41.4% of all attempts have resulted in completed calls.
- 23.6% of the attempts have failed due to incomplete dialling.
- 11.8% have failed due to dialling of non-existing numbers or area codes.
- 12.5% of the attempts resulted in an engaged tone.
- 10.3% resulted in no reply.

Source: Traffic and investment Department/TCC.

Thus, altogether 58.3% of the attempts did not result in conversations or paid traffic. The remaining 0.3% was due to congestion outside Jordan for a few international calls. Large amounts of unsuccessful calls are unpaid traffic, and create additional load on the common devices like the processors, which will limit the full utilization of the installed capacity and therefore, in reality, are very expensive.

The above investigation also indicates that the average conversation time for different kinds of completed calls have been found to be:

100 seconds for local calls

186 seconds (3.1 minutes) for national calls

5.5 minutes for international calls

101.4 seconds (1.69 minutes) were the average conversation time for all kinds of traffic

12.9 seconds were required on average for the setting up of these calls

8.3 seconds ringing time (business subscribers)

In order to evaluate the results so far they should be compared to similar statistics from several networks. Such comparisons have been made with similar statistics provided on the IPTM[1] course in Sweden as shown in Table (4.8) below.

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(1) Swedtel, "International Programme on Telecommunications Management (IPTM)", Geneva, Swedtel, 1988.

TABLE 4.8

The Quality of the TCC Network Services in Comparison Between Jordan and Other Networks

Type of data	Jordan	Other Networks
Completed calls	41.4%	47%
No answer	10.3%	10%
Business Subscribers busy	12.5%	24%
Mean Conversation time	101.4 sec.	150 sec.
Total Mean Holding Time Measured	60.0 sec.	95.0 sec.
Mean Call Set-up Time	12.9 sec.	15.0 sec.
Faults, Congestion	0.3%	12%
Subscriber errors	35.4%	7%

Concerning subscriber errors, more serious is the high rate of incomplete trials (35.4%), which indicate uncertainty as to how to handle the telephone set, dialing of non-existing codes or numbers, incomplete dialling which may largely be due to a lack of information as to how to get the correct number from the directory which is quickly outdated because of the almost 18% annual increase in new subscribers.

Congestion and technical faults on the other networks seems high. The 12% is probably due to overloaded network, busy hour condition, and may be a high rate of the old fashioned switching system, compared with the modern digital network and new electronic exchanges used in Jordan. This also explains the lower set-up time for the mean call in Jordan; 12.9 seconds compared with 15 seconds for other networks. The explanation for the lower mean holding time measured in Jordan, 60 seconds, comparing with 95 seconds for other networks is mainly due to a consequence of the shorter conversation time in Jordan (101.4 seconds compared with 150 seconds).

The registration of sample observations have to be repeated on a large scale so that a permanent updated data base for the planning will be available, and to enable the performance of the network and service provided to consumers to be continuously checked upon. It is important to supervise this development and try to improve the situation by educating subscribers through the media, (TV and Radio, adverts in the newspapers and pamphlets to be sent out together with telephone bills, for example). Also, the directory should be renewed every year at least, to provide updated correct number information.

Operation and Maintenance Centres (OMC) are being established in Amman, Zarqa and Irbid to serve E10B exchanges and the F-150 exchanges in the future. It is proposed to introduce remote reporting from the F-100

exchanges via teleprinter links. A new supervisory control centre of Abdali in Amman now monitors the main regional national and local transmission systems. It is proposed to introduce and establish an "Electronic Directory Service and Information Communications Bank", which will include computers in Amman, Zarqa, and Irbid, storing technical and subscriber service information relevant to subscriber servicing and directory assistance, maintenance and operations.

The (1986-1990) plan projected the provision of a modern digital network, to facilitate the future provision of a range of advanced telecommunications services such as data services, facsimile, paging etc... New centres to deal with customers services, needs and inquiries have been established in Irbid, and the TCC expect to introduce such centres in Amman and other cities shortly.

4.7 Objectives and Performance Evaluation

The problem of evaluating the performance of an enterprise, whether in the public or private sector, has been an ongoing concern of policy makers and researchers. A successful and useful performance evaluation of an enterprise should allow itself to face an examination of its achievements against a quantifiable list of objectives. Performance evaluation should be thought of as an integral part of the planning process, since it helps policy makers to determine whether an enterprise performs well or not and

because it may help to indicate reasons for ineffectiveness and the appropriate action which might be taken to remedy the situation. The setting of the objectives is thus the most obvious step in the process of performance measurement.

Within this framework there are three conceptual types of evaluation which can be used to assist in the evaluation of performance of public enterprises.[1]

a) Evaluation related to goals. This type of evaluation which is also called "outcome evaluation" or performance approach, analyzes whether an enterprise has met its goals and objectives at the end of a given period. Thus it appraises the ex-post facto performance.

b) Evaluation related to strategies. This type of evaluation is closely related to the realm of management. It is often called procedural evaluation or project monitoring and it analyses whether or not an enterprise has implemented or performed the strategies which were established to meet an enterprise's goals and objectives.

(1) For more details see, for example a) Fish, Donald, and others, "Practical Program Evaluation for State and Local Government Officials", Washington, D.C. The Urban Institute, (1973), b) Wholey, Joseph and Others, "Federal Evaluation Policy", Washington, D.C. The Urban Institute, (1975), c) Epstein, Irwin and Tony Tripodi, "Research Techniques for Program Planning Monitoring and Evaluation", Columbia University Press, New York (1977).

c) Evaluation related to needs. This final type, which is called impact evaluation or relevance evaluation, analyzes whether or not an enterprise is meeting the needs of its customers.

Evaluating the TCC performance related to its goals (the first type) will be the primary purpose of this section. The needs of TCC customers and the future customers is part of the TCC's strategies. These strategies, which we will mention later in the forthcoming chapters, are aimed at serving and satisfying the nation's needs as a whole, and the TCC objectives are just an attempt to specify, identify, translate and formulate these strategies in a quantifiable way, since the strategies often contain work which represent concepts and action verbs such as improve, satisfy, develop etc. which are difficult to define and measure.

One of the problems regarding the issue of objectives and performance evaluation is the trade-off between multiple objectives. It is generally believed that it is extremely difficult to identify a unique objective that represents the preferences of the decision maker with respect to the outcomes of his/her decisions, and therefore the selection among competing alternatives cannot be resolved, in many practical applications, by means of a single objective or attribute. In such cases, it is necessary to provide a mechanism that allows evaluation of the trade-offs between multiple objectives. The problem of

quantifying future preferences over events is perhaps the most difficult area in which to draw up a list of convincing axioms for preference relationships.

However, with regard to the case under review, the Jordanian government considers the TCC objectives (as it considers the objectives of other government departments and ministries integrated into the government plan cycle for economic and social development) as one unit, without differentiating between the importance or priority of one objective among the others. This means that equal weight is given to each objective in the units and therefore the problem of trade-offs between multiple objectives is not represented in our case and will not give it further consideration.

The previous 5YP (1981-85) for economic and social developments included 17 projects to be set up and operated during the plan period. All the projects were totally completed within the years of the plan except the introduction of Gentex facilities which was postponed. Most of the projects were also completed within the estimated cost, except a few and that was because of the expansion in the geographic coverage, as was the case with the upgrading of the Amman local network, the expansion of local and national services, and finally the expansion of telecommunications services in the Karak and Ma'an governorates to cover all the rural areas there in one stage. The achievement of the TCC goals and objectives was

based totally on the accomplishment of the plan projects.

Using the government's general planning objectives of creating a strong infrastructure to support national socio-economic development as a framework, the next step then is to bring to light the TCC goals and objectives as listed in the previous 5YP (1981-85), then formulate them in clear, specific measurable terms, and later, to appraise the ex-post-facto performance.

The TCC is integrated into the government plan cycle for economic and social development, formerly, in the first three year span (1973-75), then in the first 5YP (1976-80) and the second 5YP (1981-85), and currently in the third 5YP (1986 - 90) which has been rescheduled (for the TCC only) to cover the period (1988 - 1992).

The previous three development plans successively established the country's telephone and telex facilities, as important and increasingly efficient elements in the national infrastructure. During the first development plan (1973 - 75), national automatic dialing service between the major cities in the Kingdom was introduced. Under the first 5YP (1976 - 80), the first semi-electronic exchanges had been in place and replaced the main electro mechanical exchanges, and a fully electronic telex system was installed during this period, which led to a growing number of telex subscribers, to over 1,200 at the end of 1980, compared with 312 subscribers at the beginning of the plan

in 1976. That was an increase of 296%. Also, the number of telephone subscribers doubled to over 60,000 in 1980.

The second 5YP (1981-85) was considered to be the more ambitious and the biggest in its investments and achievements, compared with the two development plans before. During the period of the plan, TCC underwent a process of rapid modernization in its services and a major and distinctive step forward was achieved with the introduction of digital technology.

The first goal of the TCC in that plan was "to upgrade the quality and efficiency of telecommunications services and to guarantee the provision of adequate services on a permanent basis". Upgrading for the TCC means introducing digital technology to implement an Integrated Digital Network (IDN) strategy nationwide, as the foundation for future extension of high quality telephone service to virtually all of the 850 or so population centres in the Kingdom.

Digitalisation has many operational advantages for the TCC as well as for its customers. Digital equipment is produced at relatively low costs with much higher performance/price ratios, than the previous analogue technology. Moreover, digital technology has the capability to provide cost-effective data and other value-added services, which are currently considered to be essential for managing modern business information

networks. Access to international business information networks and data integration are highly facilitated with an infrastructure of digital telecommunications networks. Digitalisation allows easy integration of the national network and the extension of telephone and data services to rural areas. Quality for the TCC means a steady improvement in the basic telephone service with fewer crossed or noisy lines, and the key here is to link exchanges by using optical fibre cables which also carry many more and different services. It also means fewer daily faults, especially in the winter season, which represents the peak season in faults. The introduction of digital technology in switching and transmission, as well as linking exchanges using optical fibre cables, was carried out during the plan period. As a consequence, the percentage of unsuccessful long-distance call attempts due to system malfunctioning and congestion, dropped to 1% by 1987.[1] This percentage is equal to the service quality performance obtained in developed countries. The number of daily faults dropped from 1402 in 1981 to only 135 in 1985, despite an increase in subscribers from 48,424 to 92,358 respectively. The following table indicates the quality and efficiency of telecommunications services and the provision of these services on a permanent basis.

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(1) TCC "Annual Report", 1987, p.54

TABLE 4.9

The Height Number of Faults in One Day During the Winter Season for the Amman Area

End of Year	Number of subscribers in Amman Area	Rate of Growth of Telephone subscribers	Number of Faults in one day	The Percentage of the faults to the total number of subscribers
1981	48424	-	1402	2.89%
1982	56166	15.9%	1143	2.03%
1983	63972	13.9%	910	1.42%
1984	86129	34.6%	385	0.44%
1985	92358	7.2%	135	0.14%

Source : TCC : Five Years Plan for the Telecommunications Sector (1986)

The second goal was "to recover all operating costs and generate additional revenues to finance new projects and debt servicing". TCC has successfully achieved this goal. It was able to cover all operating and debt-service (loans and interest). As table (4.10) shows that net income was positive all over the plan period and have, so far, been sufficient to finance an average of 82% of the TCC investments from internally generated funds.

TCC has been a profitable enterprise, capable of sustaining fast growth without recourse to Government funds for either operation or investment and with reasonable

TABLE 4.10[1]

Summary of the TCC Financial Results for the Period (1981-85) in JD'000

	1981	1982	1983	1984	1985	Total
Operating revenues	13655	16891	27413	32234	39291	129484
Operating expenses	7629	8535	9361	11833	16363	53721
Operating income	6026	8356	18052	20401	22928	75763
Net income[2]	5448	7971	17769	19249	21785	72222
Capital expenditure	5750	7481	20118	37095	17130	87574
TCC capital expenditure as a % from net income	95%	107%	88%	52%	127%	82%
Rate of Return[3]	15%	20%	40%	36%	23%	27% (on average)

(1) This table is based on Table (7.4), TCC, profit and loss statement.
(2) Operating Income Less Interest.
(3) On Average net fixed assets in service.

borrowing requirements. On average TCC achieved a 27% annual rate of return on net assets in service based on historical value. This is high, partly because TCC pays no income taxes. With an assumed 35% tax rate[1] the average rate of return would drop to 17%, which compares well with other telecommunications enterprises in the developing world. Assets were last revalued in 1976, but this does not materially change

(1) The corporate income tax structure in Jordan is progressive with a 35% ceiling.

the conclusion because TCC's assets are likely to be overvalued.

The third goal was "to increase the telephone penetration rate in different towns and villages as shown below with a view to meeting growing demand". Telephone penetration ratios increased during the plan period as shown in Table (4.11). The total number of telephone subscribers in the Kingdom at the end of 1980 was 60.533. This represents a subscriber penetration of 2.7 DEL's for 100 inhabitants. By the end of the plan period, the network switching capacity had grown from less than 80,000 lines to around 245,000 DELs and thereafter, the total number of telephone subscribers had also grown and reached 144.972 which represents a penetration of 5.4 .

The target level of penetration had been achieved by even more than had been expected by the end of 1985 in some areas such as Irbid, Jarash, Ramtha, Mafraq and Salt, but this was still under that projected in Amman, Zarqa, Aqba, Ma'an, Karak and rural areas. The reasons behind this are:

i. that the basic equipment installation had been nearly completed by the end of the plan period.

ii. (because of) the limitation in the ability of the TCC to connect new subscribers.

iii. and (because of) some underestimation of expected population growth rates (for Amman), since two years after the end of the plan, the penetration for Amman just reached 17.2%.

TABLE 4.11

A Comparison of Telephone Penetration Between the Achievement and the Targeted %

City, Town Villages (1)	Telephone Penetration As at the end of 1980 (2)	Plan Target at the end of 1985 (3)	Achievement at the end of 1985 (4)
Amman	5.0	20.0	14.2
Irbid	7.8	12.0	14.4
Zarqa	2.8	10.0	8.7
Aqaba	10.4	20.0	14.2
Salt	9.1	12.0	12.2
Ramtha	3.7	10.0	10.5
Mafraq	4.6	7.0	7.4
Jerash	9.8	14.0	20.0
Ma'an	8.8	12.0	7.4
Karak	16.9	17.0	13.9
Madaba	2.0	10.0	9.5
Large Villages	3.0	10.0	4.0
Medium Villages	2.0	7.0	2.3
Small Villages	1.0	5.0	1.5
Kingdom Average	2.7	5.8	5.4

Source : for column (2) : Ministry of Planning, 5YP (1981 - 1985).

However, the target for Ma'an was achieved in 1986 (14.3) and in 1987 for Karak (17.3), and for Aqaba it reached 19.1.

The fourth goal was "to provide an even and balanced geographical distribution of telephone services in the country, in such a manner as to cover most of the rural areas of Jordan, and provide services to about 370 population centres with more than 500 people each". It is a well known fact that the capital cost to provide one telephone line in rural areas is usually double or even more than in cities and towns.[1] Besides, rural areas in Jordan are dispersed over a wide geographical region, which adds another cost to providing telephone services. Even so, a total of 270 population centres (out of 370 targeted in the plan) were provided with automatic telephone services. Even with the shortfall, which occured because of financial constraints, the percentage of the total population receiving automatic services increased to 88.4% of (the total population).

The fifth goal was "to provide community telephone services to about 50% of the population centres with less than 500 people each. This will include about 360 centres". TCC has successfully achieved this goal. Some 380 population clusters were provided with associated services served in several locations by semi-automatic manual exchanges.

(1) Robert J Saunders and others (1983), "Telecommunications and Economic Development", A World Bank publication, Washington DC The World Bank, Chapter 10.

The sixth goal was "to provide fully automatic national and international telephone direct dialling through international exchanges, earth stations and regional and national toll networks". TCC has again accomplished this goal completely when a fully automatic national and international telephone direct dialing succeeded through the NSC which was commissioned in 1982, and through the ISC which was put into service in the same year and was replaced by a new and bigger one (type MT20) in mid-1985. With 200 national and international circuits, Jordan was connected with the rest of the world using ISD service. The effect of operating the national and international exchanges was a significant increase in the number of calls. For the international calls, the total number in 1982 was 7,775,500, increase by more than 92% one year after and totalled 14,975,900 in 1983 and 20,091,500 at the end of 1985.

By the end of 1985, the NSC provided direct dialing services between Amman and a network of 48 other cities and villages in Jordan increased to 219 in 1986, and to over 300 in 1987. The ISC which provided 534 international circuits in 1985 increased to 723 in 1986 and to 824 in 1987. Subscriber trunk dialing and international dialing is available to 92% of the subscribers who have direct access to over 70 countries via the satellite earth station system.

The seventh goal was "to extend telex services to all

prospective subscribers and enlarge the capacity of the existing exchange to accommodate 4,000 subscribers". Telex services were made available to all would-be subscribers on request, and the telex exchange was expanded to 4,000 lines. As a consequence, the number of telex subscribers increased by 118% during the plan period and exceeded 2700 at the end of 1985. Telex services are primarily used for public administration and international business and this is reflected in the fact that 890% of telex services are concentrated in the capital Amman.

The final goal in the plan was "to make telegraph services automatic, and introduced Gentex facilities through the electronic telex exchange in Amman and the TDM national circuit." The automation of telegraph services have been introduced on a small scale, and the Gentex facilities project was postponed.

4.8 Summary and Conclusions

It is difficult to sum up this chapter concisely, as we have covered a wide range of issues. A major improvement and modernization of Jordan's telecommunications facilities was achieved under the previous 5YP (1981-85), following the introduction of digital technology in the area of Stored Program Controlled (SPC) switching, radio microwave links and cable transmission.

About 270 towns and villages in the country are provided with automatic telephone services covering 88% of Jordan's total population. Some 380 population clusters are provided with service by semi-automatic manual exchange. In the Greater Amman metropolitan area, which accounts for 63% of the total number of subscribers, 25% of telephone DELs are for business, 3% for PBX, and 72% for residential. Depending on the exchange area, the percentage of DELs for business purposes varies from 58% in the city centre, to a low of 15% in the suburban areas. Although statistics are not available for the rest of the country, experience suggests a higher percentage of telephone for residential outside the capital city.

The tariff structure and the policy for establishing pricing levels have many discrepancies, and should be refocussed towards meeting the national socio-economic objectives, demand and economic cost of services. As of the end of 1985, the breakdown of TCC's total telephone revenues was as follows:[1]

a) international services (69%)

b) installation fees (12%)

c) rental fees (11%), and

d) local and national calls (8%).

International revenues have so far constituted the bulk of telephone revenues, but are likely not to increase

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(1) See Chapter 7, Table 7.4

as in the past due to economic slowdown in Jordan and neighbouring countries and the return of many Jordanian workers from abroad. Revenues from local calls have been minimal because subscribers have been entitled to 2,000 free local calls for up to 6 minutes each. This high level of free calls distorts usage patterns, particularly since there is no analysis of median call length to establish the validity of six minute free call duration, or the number of free calls. Installation fees, which represent 40% of domestic revenues and 10% of total revenues, are a non-recurring revenue and are dependent upon network expansion. Following completion of the proposed investment programme, network expansion will drop off considerably and heavily reduce this revenue source. Commencing December 1986, international rates were decreased on average by 28%. Subscription rates are quite high averaging JD 130 per DEL. Telex revenues as a percentage of total revenues have declined from 30% in 1982, to 13% in 1985, and less than 6% in 1987, reflecting the slowdown in economic activities and change in technology. The above financial results demonstrate clearly major discrepancies in the tariff structure and, therefore, indicate the necessity for reviewing pricing policies, tariff structure and levels.

With the introduction of state-of-the-art digital technology in switching and transmission, the percentage of unsuccessful long-distance call attempts has dropped to as low as 1%; a service quality performance that is matched only in industrialized countries.

A sizeable 35% of unsuccessful calls are caused by subscribers misdialing (11.8% dialing of non-existing codes or numbers, 23.6% incomplete dialing). This may be largely due to outdated telephone directories and inaccessable information services.

On the whole, the rapid network modernization and growth of TCC has not been accompanied by a comparable programme for improving sector policies, and for upgrading TCC's organization and management system. TCC is constrained by the Government's administrative and financial procedures, and lacks the autonomy to function as an efficient commercial entity. In addition its present structure is highly centralized and lacks the management characteristics and certain basic functions of commercial entity. Given this major sector reforms and considerable strengthening of TCC's operations and management capabilities are, therefore, needed, to enable sustained and more efficient sector development.

Part of this chapter has focussed on the performance amounts and appraising the extent to which the TCC did in fact achieve the goals specified in the previous 5YP (1981 - 1985). Goals represent a central concept in the studies of public enterprise performance and they became even more so with the development of management by objective theory, and the increasing pressure on public enterprises to achieve results. However, having put the TCC goals into operational form and formulated them in observable and

measurable terms, then using a performance approach (outcome evaluation), the appraisal points to the success of the TCC in achieving its goals. The overall conclusion that this suggests is one that is optimistic. Judged by objectives, TCC has clearly been successful. The rapid introduction and usage of new technology have been the main reasons behind the TCC achieving its goals.

TABLE 4.12

Operating Statistics

Category \ End of Year	1981	1982	1983	1984	1985	1986	1987
Population (1000)	2306	2399	2495	2595	2694	2796	2859
Exchange Capacity	79000	96734	113984	156844	244948	248968	294336
DELs in service	71641	86074	98175	119340	144972	171951	202908
Increase in DELs(%)	18.3	20.1	14	21.5	21.5	18.6	18
DELs/100 Population	3.1	3.6	3.9	4.6	5.4	6.1	7.1
Exchange fill (%)	90	89	86	76	59	69	69
Telex in service	1567	1857	2163	2459	2702	2612	2592
Increase in telex(%)	26.5	18.5	16.5	13.7	9.9	-3.3	-0.7
Domestic telephone revenue (JD'000)	4134	4549	3868	6609	10352	10200	11714
Increase in domestic telephone revenue(%)	-	10	(-15)	71	57	(-1)	15
International telephone revenue (JD'000)	5339	6558	17422	19618	22787	24966	26296
Increase in international telephone revenue (%)	-	23	166	13	16	10	5
Telex revenue (JD'000)	4182	4984	5032	5020	5268	5165	2494
Increase in telex revenue (%)	-	19	1	-	5	(-2)	(-52)
TCC Staff	3045	3310	3265	3249	3315	3325	3389
Staff/1000 DELs*	42.5	38.4	33.2	27.2	22.8	19.3	16.7

* As an indicator of labour productivity. Although it is poor for reasons to be discussed later in Chapter 6, but as a measure of trends, it is much less misleading.

CHAPTER 5

Performance Evaluation of Public Enterprises

5.1 Introduction

In recent years a considerable amount of scholarly activity has been devoted to the economics of public enterprises. Much of this research has been aimed at issues of interest to policy makers, public enterprise managers and economists, as a consequence of the increasing concern over the performance of public enterprises around the world.

A sound and workable performance evaluation system for public enterprises could lead to considerable gains which accrue as a result of an improvement in efficiency. A five per cent improvement in real efficiency of the public enterprise sector in Egypt, for example, would free resources amounting to 5 per cent of GDP, equivalent to 75 per cent of all government direct taxes, while in Pakistan, it would free resources amount to 1 per cent of GDP, equivalent to half of the direct taxes. Meanwhile in the Republic of Korea, it would free resources amounting to 1.7 per cent of GDP or over $1 billion in 1981.[1]

(1) Leroy Jones, "Towards Performance Evaluation: Methodology for Public Enterprises, with particular reference to Pakistan", in Department of Technical cooperation for Development/United Nations Economic Performance of Public Enterprises: Major Issues and Strategies for Action, New York, United Nations (1986), p.116.

However, such a system must commence with an understanding of the concept of public enterprise and its various dimensions. According to ICPE (1982), "The concept of public enterprise implicitly assumed the existence of two dimensions - the enterprise dimension and the public dimension. The enterprise dimension involved the setting up of a recognizable organisation engaged in the production of goods and services, marketed at a price, and whose transactions are formulated through a system of commercial accounts such as balance sheets and profit and loss accounts. The public dimension on the other hand, involved public ownership, public management and control, and assumed the existence of public purposes and the fulfillment of public interest".[1]

When considering the subject of performance evaluation of public enterprises it is first necessary to keep in mind two questions. First, whose performance is being evaluated, and second, evaluation for what purposes ? In dealing with the first question, according to Mehdi (1985),

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(1) International Centre for Public Enterprises (ICPE) (1982) "Performance Criteria and the Implementation of Performance Evaluation systems" Public Enterprise, Vol 2, No. 3, p.39.

"It has to be noted that performance evaluation systems need to be devised in the light of specific functions of individual public enterprises. No one set of "efficiency" rules or criteria can apply equally to water and to steel, to urban transport and to gas, to conditions of monopoly and competition. In dealing with the second question, the objectives of performance evaluation have to be kept in view. No one set of performance criteria can adequately assess both the allocative efficiency of new investments, and evaluate the operational efficiency of management in order to provide it with incentives".[1]

This chapter is organised as follows. Section 2 deals with the choice of criteria, starting with the concept of profit as the most widely used criterion for evaluation of performance and examining the major approaches to performance evaluation. It also covers a theoretical discussion on the specific requirement of performance evaluation system of public enterprises. Section 3 examines public profitability as the primary criterion for evaluating the performance of public enterprises, and specifying the elements of such criterion. Section 4 investigates the issue of managerial performance and discusses the constraints facing the public enterprise

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(1) Istaqbal Mehdi (1985), "Performance Evaluation of Public Enterprises in Pakistan: An Experiment with a Social Accounting System", in ICPE, Essays on Relations Between Governments and Public Enterprises, Ljubljana, ICPE, p.202.

managers and the necessary adjustments, to evaluate real managerial performance, while the final section is devoted to concluding comments.

5.2 Choice of Criteria

Performance of an enterprise is based on the interpretation of facts and judgement on the basis of those facts. Like any interpretation and judgement, it is subjective. Subjective in the sense that it is dependent on the specific value system chosen by the evaluator. Not unlike a theatrical performance, where different observers can come up with different judgements on the same performance. The point is not that some are right and others wrong, but that their judgements are based on their individual perspectives. Likewise, different evaluators viewing enterprise performance from different perspectives may come up with different conclusions about the performance of the same enterprise (public or private). Thus, in choosing among the various perspectives, we shall not investigate which is right or which is wrong (since they are designed for different purposes), but simply which one is most relevant or appropriate for our study, and to start with, let us first consider the question of what the appropriate criteria are for performance in public enterprises?

5.2.1 Standard Private Profit

Public enterprises are instruments of public policy and, therefore, as with any other public policy instrument, the operation of a public enterprise ought to enhance the social welfare. This suggests that an enterprise must attempt to maximize social utility or social welfare, given the constraints of resources and technology. In other words, the benefit (or welfare) generated by the enterprise per unit of the scarce resources should be maximized. Given this, we shall look at the contribution of the enterprise from society's point of view. All benefits and all costs associated with its operation must be looked at.

The first criterion that comes to one's mind is the standard accounting concept of profit, a basic quantitative indicator of the performance of an enterprise in the context of a market economy.

A private enterprise has multiple objectives in the form of maximizing its various outputs, while minimizing the costs of its various inputs. By applying positive weights (prices) to each of the benefits (outputs) of operation, and negative weights to each of the costs (inputs) and adding them up, a composite performance indicator is then created called profit.[1]

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(1) Jones, L. (1986), op. cit p.129.

A simple analysis of this concept is as follows: a private enterprise carries on production of some kind. Using inputs to create outputs, inputs are bought at dominant prices and are processed using technology chosen by the enterprise in line with its considerations of efficient production. The output created is then sold at prices generating the enterprise's total revenue. When total revenue exceeds total cost, then there is profit as shown in the equation below:

Profit = total revenue - total cost

$$\text{Profit} = \sum_{i=1}^{n} (P_i . Q_i) - \sum_{j=1}^{n} (P_j . Q_j)$$

where P is output price

Q is quantity

i is output

and j is an input.

However, the standard private profit as measured by the accountants and shown in the accounts of the the enterprise tend to suffer from technical problems concerning policies on inputs, outputs and prices charged, and from conceptual differences of benefits and costs which render it incapable of reflecting the true operational performance of an enterprise from society's point of view.

One of the main problems with the standard private profit is that those items which it categorizes as costs

and benefits are not always so from society's point of view. Thus, if the standard private profit decreases due to an increase in a particular cost component, then it does not imply ipso facto that social welfare will also decrease. Examples of such costs are:

1. direct taxes
2. interest payments
3. other distributions (donations, etc.)
4. depreciation.

If direct tax, for example, is collected from an enterprise, then it certainly represents a cost to the owners of that enterprise because they lose money which would have gone to their accounts. Thus, they are fully justified in treating direct tax as a cost because they are worse off, since their personal welfare decreases. However, from the society's point of view, direct taxes mean taking money from one account and putting it in another. Such a transfer neither increases nor decreases the total social welfare of society. It simply represents a redistribution of any given welfare. This is also true for interest payments, other distribution and depreciation.

The same idea applies to some items that are categorized as benefits, while from society's point of view, they are really not. Examples of such benefits are:

1. capital gains and transfers.
2. financial income and rent.

If an enterprise receives interests and dividends from its investments, for example, then its owners are better off because their personal welfare increases and become richer by this amount, and therefore they are justified in treating it as a benefit, while from society's point of view, this money or welfare was generated elsewhere and not by this enterprise. It is simply transferred to this enterprise without increasing or decreasing the total welfare of society. This reasoning is also true for any non-operational returns (financial income and rent).

The second main problem is that private profit does not take into account external decision constraints which may result in low profit (the government prevents an enterprise from hiring the people it wants, from paying the wages necessary to attract good people, from rewarding good performance etc) and also investment decision constraints which can have a significant effect (the quality of capital stock in hand for example). Standard private profit therefore is inadequate and inappropriate for measuring and assessing the real performance of public enterprises. If standard private profit as currently measured is not the appropriate criterion for our purpose, then what are the alternatives?

5.2.2. Partial and Multiple Indicators

Partial and multiple indicators are the most popular and widely used criteria in measuring and assessing the performance of an enterprise. Partial indicators are partial in the sense that they concentrate on only one aspect of an enterprise's overall performance. This constitutes their major weakness: they do not account for all the costs and all the benefits of the enterprise's activities. The most common examples of this class of indicators are:

1. Labour productivity. It counts the benefits, output and cost of only one factor of production (i.e. labour). It tells nothing about the productivity of other factors of production, overall productivity, overall cost or the desirability of the enterprise's capital-labour ratio.

2. Partial Business Ratios such as inventory/sales ratio which emphasizes the importance of the optimum level of inventories to the exclusion of all other objectives.

The weaknesses of partial indicators are obvious. They do not include all the relevant costs and all benefits associated with the enterprises operation. Thus they are inadequate, and to avoid these weaknesses, evaluators use multiple indicators involving most or all factors of production to cover all aspects of an enterprise operation.

Multiple indicators consist of a weighted average of some of the partial indicators. By taking a weighted average of a number of partial indicators, evaluators feel that they have covered all aspects of an enterprise operation, and hence rectified the deficiency associated with partial indicators (lack of coverage). However, multiple indicators, the way they are measured, tend to account for some benefits, or costs, more than once, while ignoring some other benefits or costs entirely, and thus violate the principal condition of an acceptable criterion, i.e. that it accounts for all the benefits and all costs once and only once.

The problem of multiple indicators also exists in the choice of weights and in the uneven coverage of benefits and costs. Suppose an enterprise being evaluated under these indicators increases its output by £100 and also intermediate inputs consumed go up by £100. The net effect of this change, as far as the society is concerned, is nil, while in reality, the chances that the enterprise will be rewarded for its efforts because it would appear to have improved its performance, according to this approach, are very high. Thus, the enterprise gets credited for increased output more times than it gets debited for increased inputs. In general, we may say that whenever those multiple indicators involve a symmetric counting of benefits and costs, they become unreliable measures of enterprise performance. Meanwhile, there are two main systems used as multiple indicators for performance

evaluation, namely the signalling system and the Korean system (see next chapter, section 6.3).

5.2.3. Composite Indicators

Composite indicators are another type of indicator which try to capture all aspects of enterprise performance in one single indicator. Two approaches can be found under this category, duality based approaches and accounting approaches.

5.2.3.i. Duality based approaches

Duality based approaches have been used to evaluate the relative efficiency of the enterprises. These approaches are: the production function approach, the cost function approach and the profit function approach. The first comprehensive treatment of the subject and proof of the basic duality of cost and production was provided by Shephard (1953).[1] The results were refined and extended by himself in 1970.[2] The core of the duality approach is that given the supposition of profit maximization, it can be shown that there exists a crucial relationship between the production function, the cost function and the profit function. The existence of any one of these three implies, for well behaved functions, the unique existence of the other two.

(1) R W Shephard (1953), "Cost and Production Functions", Princeton, Princeton University Press.
(2) R W Shephard (1970) "Theory of Cost and Production Functions", Princeton, Princeton University Press.

The interest in the area of so called "production theory" emanates from the desire to be able to, ultimately, study cost-behaviour, factor usage, various elasticities etc. of enterprises and industries. The conventional starting point of production theory is specification of a physical technological possibilities, described by a production or a transformation function. It is then estimated econometrically using some technique. This estimated production function is then used to calculate factor demand curves, cost-function, and so on, by inverting the implied first-order conditions. This is an extremely cumbersome procedure because:

a) reliable data for estimating production functions is difficult to collect, or simply unobservable and, b) there are conceptual problems with econometric estimation of a production function. Thus, this approach will always be suspect because one would always wonder whether the estimated profit functions, cost functions, etc. were based on some realistic production function or not. The simpler approach of estimating profit functions, or cost functions from more readily observable economic data on prices, is believed to be more useful than the more complicated and somewhat suspect procedure of estimating production functions. However, since this study is not a comparative study because of the characteristics of the particular enterprise under consideration (details later in chapter 7) neither the profit function approach, nor the production function or cost function approaches can be used for empirical work.

5.2.3.ii Accounting Approaches

Accounting approaches are so called because their basic information on costs and benefits associated with enterprise operation are taken from the financial accounts of these enterprises. Approaches under this category can be classified into three approaches:

1. private profit;
2. composite business ratios; and
3. public profit.

We have already discussed the problems associated with the standard private profit. The composite business ratios have all the problems associated with the private profit, and also suffer from asymmetric treatment of costs and benefits. For example, Net Income/Sales is a composite business ratio, which has sales in the numerator as well as in the denominator. This violates the fundamental principle of performance evaluation that it accounts for all the costs and all the benefits once and only once. This brings us back to the concept of profit which measures all costs and all benefits once only, which makes it unambiguously superior to any partial indicator, and to most multiple indicators.

In sub-section (5.2.1), we have come to the conclusion that standard private profit as measured by the accountants and shown in the accounts of the enterprises, is not the appropriate criterion for assessing the real performance of a public enterprise since publicly relevant

profit is completely different from privately relevant profit because of differences between publicly and privately relevant accounting categories.

In the case of private profit, benefits and costs for example refer to the accountants' concept of cost and benefit, whereas in the case of public profit, we are talking about economists' notion of benefits and costs, i.e. true opportunity costs and true benefits. Corporate income tax is a private cost as mentioned earlier, and therefore a private manager should be rewarded for reducing taxes in favour of increasing dividends and/or retained earnings. For a public enterprise, taxes are not a cost. It represents one form in which the benefits are distributed to the government shareholder. A public manager should be neither rewarded nor penalized for reducing taxes while increasing dividends, retained earnings or the depreciation allowance.

Another example is the treatment of non-operating income such as interest and dividends, rents, etc. which are included in private profit but excluded from public profit. The logic for exclusion being that they do not reflect the contribution to the national welfare made by the enterprise concerned but rather a distribution of surplus generated by some other enterprise.

These are two of many examples of differences between publicly and privately relevant accounting categories. All

come into existence because a private manager is concerned for the interests of only one economic actor (the shareholders), while the public manager has to keep in view the interests of all domestic actors. So, "for evaluating the real performance of public enterprise efficiency, it is necessary to arrive at an adjusted profit which not only takes care of public ownership of the enterprise but also makes alterations in the normal accounting procedure, which distorts the information concerning the real surplus generated by the public enterprise".[1] This adjusted profit, according to Leroy Jones, will be termed "public profit" which he defined as "single-period variable social benefits less variable social costs. That is, the difference in the value to society between what the enterprise takes out of the economy (costs) and what it puts back in (benefits) in any period. More precisely, this is the quasi-rent generated by the fixed capital owned and operated by the enterprise".[2] Public profit therefore can be defined as (output - intermediate inputs - wages - rent - opportunity cost of working capital).

Symbolically,

$$\pi = X - II - w - R - r\ (Kw)$$

where

π = public profit
X = output
II = intermediate inputs
w = wage bill
R = rent
r = opportunity cost of capital
Kw = working capital

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(1) Mehdi, I (1985), op. cit. pp.207-208
(2) Jones, L (1986), op. cit. p.122

5.3 Public Profitability

In the previous sections, we discussed the main differences between private profit and public profit. Here, we will analyze the exact relationship between the two. Starting from private profit (after tax), a number of adjustments are made to arrive at the actual surplus generated called public profit in a given period as shown in Table(5.1)

TABLE 5.1

Public Profit in Relation to Private Profit

	Private Profit (after tax)
plus	Return to non-shareholders:
	Direct taxes
	Interest payments
	Other distributions (donations etc)
	Dividends in Kind
minus	Non-operational Returns:
	Financial income and rent
	Capital gains and transfers
plus	Depreciation (& Amortization)
minus	Opportunity cost of working capital
minus (plus)	Adjustments from future periods
minus	Subsidies (less indirect taxes)
=	public profit (at market cost)

These adjustments are essentially because of differences between publicly and privately relevant accounting categories. As we have seen earlier, taxes, for example, are a privately relevant cost but not publicly relevant, and therefore a public manager should be neither rewarded nor penalized for reducing taxes while increasing dividends, retained earnings or the depreciation allowance. Hence, public performance should be measured before taxes, and private performance after. The point is that the purpose of performance evaluation is to encourage the maximization of the socially relevant profit, and the determination of the distribution of that surplus is a separate question. [1] On this basis, adjustments are made for returns to non-shareholders, non-operational returns, depreciation and amortization, opportunity cost of working capital, adjustments from future periods and subsidies (less indirect taxes). An exposition of the rationale of these adjustments is as follows:

Return to Non-shareholders, which is composed of a) direct taxes; b) interest payments; c) other distributions (e.g. donations etc.) and, d) dividends in kind, is the most crucial difference between private and public profits. The logic behind adding these payments to the private profit is simply because of conceptual differences of benefits and costs. These payments are expenses from the view point of private shareholders, but from the point of

(1) Jones, L. (1986), op. cit. p.122

view of the society as a whole, they are a distribution out of net resources. Thus, while in the concept of public profit, the recipient of private profit is the private shareholder, the returns to non-shareholders are those made to the government (direct taxes), financial institutions (interest payments) and others (donations and dues, etc.) and dividends in kind.

Concerning non-operational returns, enterprises usually earn returns on investments in the form of financial income and rent and also in the form of capital gains and transfers. These returns are derived from non-operational activity and, therefore, should be deducted in public profit although they are added in private profit. Such adjustment is critical because many public enterprises borrow at a lower rate and re-lend at a higher rate. From the private shareholder viewpoint, such arbitrage makes a positive contribution to profit, but from the public viewpoint, it is merely a transfer of other enterprises's surplus (a claim on another enterprise's value added).

With respect to depreciation, it is different from other costs since it does not involve a current drain of cash and the funds charged for depreciation are just like retained earnings for they are available to the enterprise to invest again in fixed or financial assets. Conventional profit is measured net of depreciation while public profit

measures profits gross of depreciation for the following reasons:-

Firstly, the private accountant's choice is overridden by tax considerations which are of secondary importance from the public's point of view.

Secondly, the conventional accounting measurement of depreciation differs from that of the economist, who prefers to deduct "physical deterioration" as a function of use. The former is determined by tax laws and has no correspondence with the latter, the actual physical rate of deterioration which is a variable cost, whereas for most accountants, depreciation is a fixed cost, which is contradictory to the strict computation of public profit which is variable benefits less variable costs.

Thirdly, for performance evaluation purposes, measuring public profit gross of depreciation is consistent with the treatment of current returns in project evaluation. In sum, in calculations of private profit, depreciation is treated as a cost and subtracted before arriving at the profit figure. In public profit, this is not deducted as it is considered to have no correspondence with the actual rate of physical deterioration.

Another point in calculating public profits is to recognize that working capital held by the management is a factor of production which enhances the capacity for

generating surpluses by the enterprise. It has a real opportunity cost to society which must be deducted from the return to operating assets to arrive at public profit (Quasi rent), generated by the enterprise. The opportunity cost of working capital is calculated as the stock of working capital (KW) times the interest rate (r) which could be earned if the assets were sold and invested. The stock of working capital is taken as: inventories plus financial working capital (e.g. cash and demand deposits and accounts receivable etc). Public profit therefore recognizes the opportunity cost of working capital whereas private profit does not.

Deducting this cost from private profit is considered to be necessary to provide managers with an incentive to hold the minimum level of working capital consistent with efficient operation.

Finally, to reach public profit, adjustments from future periods are deducted from private profit, since there are some costs (or revenues) that become known only after the end of a particular year and the books have been closed. The treatment of these costs (or revenues) in the usual private accounting convention is to deduct them in the year after, as part of surplus, disposal after profit has been calculated, while in public profit, this is adjusted by adding these costs (or revenues) in the year of attribution. Subsidies, are a transfer of payments and do not increase or decrease national welfare. Therefore,

logic demands that they be deducted in public profit. After the above mentioned adjustments, standard private profit is converted into public profit.

Having arrived at public profit, the next step is to measure public profitability as the final indicator of the performance evaluation of public enterprises. Public profit divided by the value of operating fixed assets, gives public profitability and indicates the surplus generated given the capital stock in hand. Public profitability, therefore, is defined as the ratio of public profit to operating fixed assets as expressed below:

$$p = \frac{\pi}{K}$$

where p = public profitability

π = public profit

K = operating fixed assets

In terms of the coverage of benefits and costs, global productivity of factors (total factor productivity) is another accounting approach which is as theoretically sound as public profitability. It only differs in the way of the arrangement of these benefits and costs between the numerator and the denominator. Symbolically,

$$G = X / (II + W + rK)$$

where G = global productivity (at constant price)

K = fixed + variable capital. The other symbols have the same meaning as in the case of public profitability.

If both criteria appear to meet our basic requirements for an appropriate measure, does it matter which one we use? The answer to this question is certainly, yes it does. Each arrangement of cost and benefit categories has very specific implications. Which one is appropriate depends on the question we are asking.

Global productivity tells us how many pounds worth of output does an enterprise produce from one pound worth of resources. Public profitability, on the other hand, tells us how many pounds worth of net surplus (benefits-costs) is produced per pound worth of fixed capital. The difference between the two lies in the implicit assumption. In the case of global productivity, there is a variable charge for the so called fixed capital. The implication is that fixed capital have an opportunity cost, that is they have alternative uses. This treatment of fixed assets is consistent with a long term perspective where investment and divesture becomes a marginal decision.[1]

Public profitability, on the other hand, assumes that the fixed capital are, indeed, truly "fixed", and once the

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(1) Ishaq, N. (1970) "Recent Approaches to the Theory of Measurement of Total Factor Productivity: a Survey", Journal of Economic Literature, December.

enterprise is established, they become part of the sunk costs. Telecommunications, for example, require large infrastructural network investments which cannot be used for anything else. They are said to be heavy with sunk costs, and the enterprises are stuck with them. Therefore, it requires us to be careful about making the best possible use of these resources. This is what public profitability is concerned with, which makes it superior to any other approach, and therefore meets our basic requirements for a more suitable criterion as one can get, to assess the performance of the enterprise under consideration.

Concerning the denominator of public profitability, operating fixed assets are considered to be an indicator of the resources available to the enterprise management. Public profitability is thus similar to a national economic rate of return concept.

A distinction has to be made between operating and non-operating fixed assets, in order to work out the value of the denominator. Operating assets are divided into:

1) Buildings and structures
2) Operating land
3) Vehicles
4) Machinery and Equipment
5) Tools and Furniture
6) Intangibles

Non-operating assets are not used in the denominator. Public profitability therefore relates profit to the amount

of capital available in an enterprise, and indicates the surplus generated given the capital stocks in hand.

Before we conclude this section, there is an issue related to the choice of indicator for performance which must be discussed. Public enterprises often pursue a wide spectrum of objectives which can be categorized as commercial and non-commercial objectives. Commercial objectives are similar to those of private enterprises and are reflected in commercial accounting procedures. Non-commercial objectives concern external effects of enterprise operations which are not reflected in private accounting procedures.

Non-commercial objectives may have either implicit or explicit costs (and benefits). The difficulty in handling non-commercial objectives arises primarily because of the implicit costs and benefits. For instance, let us consider the case where the government decides to establish a fertilizer factory in a backward area with the objective of developing the region. Such regions are characterized by conspicuously underdeveloped infrastructure. There are no main road systems, powerlines, telephone lines, educational establishments and health centres. All these have to be provided for and maintained by the enterprise. This affects their capital and current costs. Such costs are explicit and can be easily adjusted for. But there may be certain other costs which are implicit and cannot be qualified easily such as the absence of the modern work

ethic among workers in the area.

A similar distinction can be made on the benefits side. Whilst it is easy to measure the growth of employment and income in the region, it is difficult to measure the effects on hygiene and sanitary habits, the inculcation of the modern work ethic conducive to industrial development and other positive, intangible externalities.

Fortunately, for the purposes of performance evaluation, the problem of non-commercial objectives can be substantially reduced by recognising that most non-commercial objectives are "existential" in nature, rather than operational. That is, they are achieved by the act of establishing an enterprise, and therefore not directly affected by the operational performance of the enterprise. They affect investment decisions, but not operating decisions. Therefore, project evaluation criteria are altered, but not performance evaluation criteria. A more clear example would be when a decision to build an integrated steel mill might be influenced by such non-commercial objectives as the achievement of a self-reliant economy. Once the plant has been built, the non-commercial objectives have been achieved (so long as steel is produced) and operational objectives are only commercial - to produce as much as possible at minimum cost.

In our case, from reviewing the TCC's stated objectives in the Government documents (the previous Five Year Plan for economic and social development 1981-1985 and the current one 1986-90), we have seen that the Government have not imposed any non-commercial operating objectives on the TCC. Thus, on the basis of these explicitly declared objectives, we can say that the TCC is run on commercial considerations. Any implicit non-commercial effects which can be valued in monetary terms will automatically be covered in public profitability.

However, it must be admitted that in some cases, depending upon the nature of the public enterprise (regional development bank for example), non-commercial objective may far outweigh the commercial objectives. In such cases, public profit, unless calculated in shadow prices, is rendered incapable of reflecting the enterprise's contribution to society. If the pursuit of non-commercial objectives in building a road in a backward area, for example, is affecting the degree of, or changing the operational performance of the enterprise, then managerial performance should be evaluated after accounting for the incremental costs incurred in the pursuit of non-commercial objectives, but not before. Costs on non-commercial objectives represent dividends in kind, paid to society by the enterprise rather than as taxes, dividends or retained earnings.[1]

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(1) Jones, L. (1986), op. cit. p.130

5.4 Managerial Performance

In the preceding sections, we agreed upon the choice of a criterion for the operational performance of public enterprises: the value of the surplus or profit measured in the publicly relevant sense. Given the choice of an indicator, the question which arises is how do we measure the performance of an enterprise's management ? To start with, it is worth remembering that the core of the performance evaluation exercise lies in finding out how well the enterprise (management) is doing relative to their potential, given all the constraints faced by the management.

There are a number of factors and constraints which must be taken into account when assessing managerial performance. Many of these factors and constraints are beyond the control of an enterprise's management. Decisions such as hiring workers or procurement procedures affect the public enterprise's performance which are usually circumscribed by government policy.

The quantity of capital with which a manager of a public enterprise has to work and its quality (technology and age for example), are frequently determined in previous periods by other actors. The importance of this constraint lies when relating public profit to the capital stock in hand and then using this indicator to highlight the improvement in performance over the past periods. The

other distortion arises when the relevant prices are taken into account. Input and output prices for an enterprise are usually set by forces outside the control of management. An enterprise is forced to sell its output in a price-controlled market where price is usually lower than what society would be willing to pay; or it is allowed to purchase imported inputs at a preferential exchange rate below the real value of the foreign exchange to society, while in reality, the prices should be those which reflect economic scarcity. To solve this problem, in principle, it is suggested that accounts are revalued, using shadow prices, a common feature in project evaluation. However, this is unlikely to occur in practice, because shadow prices "are complex and controversial at best and it would take a Government with great faith in economists to fire a powerful retired general, politician or bureaucrat based on whether the shadow multiplier for unskilled labour was, say, 0.1 or 0.7."[1] Thus , for such reasons, a clear distinction must be made between enterprise performance and managerial performance.

One step in the process, according to Jones (1986) is that the best way to correct for a wide variety of enterprise-specific exogenous factors, is to divide through by the achievement of the same enterprise in previous years. That is, by concentrating on the trend in performance. On this basis, for evaluating enterprise "A"

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(1) Jones, L. (1986), op. cit. p.123.

in year "t" is provided by the same enterprise in "t-1". It follows that for control purposes, managers should be evaluated on the basis of the trend in public profit at constant prices. One certainly controls for the quality of capital and to some extent for the nature of output and input markets.

Another step in the process is to make a standard adjustment for two readily quantifiable exogenous factors - price changes and the quantity of capital. By dividing public profit through the quantity of fixed capital and convert to constant prices, the resulting indicator - public profitability at constant prices - is greatly superior to public profit as a measure of managerial performance. Further steps of industry-specific quantitative corrections can be taken for some enterprises. Engineering data on the effects of scale, vintage and technology can sometimes be used to create adjustment factors for the quality of capital. Low capacity utilization owing to shortages of inputs or insufficient demand can sometimes be corrected for by an "as if" expansion factor.

Public profitability at constant prices is greatly superior to measurements based upon current prices simply because profits in current prices can change over time not only due to changes in managerial efficiency, but also due to movements in prices. Therefore, a ten percent increase in input prices when output prices stay the same can make a public enterprise manager appear less efficient even

though he/she may have increased their effort. In contrast to current prices, public profitability at constant prices is thus fair to the management.

Adjustments are therefore made for changes in those factors affecting the size of the surplus generated by an enterprise, but beyond the control of the management (Factors 1, 2, and 3 in Table 5.2 below).

TABLE 5.2

Classification of Factors Affecting Public Profits in Current Prices

1.	Endowment of Fixed Factors	e.g. -Quantity of capital -Quality of capital
2.	Prices of Inputs and Outputs	
3.	Other factors exogenous to the management	e.g. -Insufficient demand -Non-commercial objectives
4.	Managerial Performance	

One final issue which must be discussed before ending this section is that public profitability at current, constant or shadow prices, reflects the performance of an enterprise and its management in a single period. It is a static operational performance indicator which ignores the future effects of current decisions and therefore may be in conflict with considerations of dynamic efficiency.

Expenditures on maintenance, research, training and planning increase costs in the present, but generate profits in the future. Thus, public profitability as a single-period indicator, captures only one side of the benefit/cost calculations for decision which impact on more than one period. Managers of public enterprises may spend less than optimal amounts on current expenditures with future benefits, or even neglect the future by devoting insufficient attention to maintenance, planning, R & D etc.

In private enterprises, it is less likely that the future will be sacrificed to the present for two reasons. Firstly, in an owner-operated enterprise, the self-interest of the decision-maker will lead him to value the future. When ownership is separated from control, long managerial tenure and deferred managerial compensation (stock options) can tie decision-maker interest to future effects. Secondly, the value of shares traded on the stock market is strongly determined by investors' perception of future effects. For public enterprises, in developing countries, management is separated from capital, tenure is typically brief, and shares are either not traded at all or in some cases traded in an imperfect market where government-imposed dividend policies dominate as a determinant of value.

However, the weakness of public profitability as a

single-period performance indicator can be greatly minimized by developing a performance evaluation system based upon the primary indicator of public profitability, which covers static operational performance and any non-commercial or dynamic effects which can be valued in monetary terms[1] plus supplementary indicators to cover dynamic effects and non-commercial effects which can only be rated, but not monetized. It is proposed that wherever dynamic considerations were important, they should be explicitly incorporated in the performance evaluation system.

5.5 Concluding Comments

Since we are looking at the contribution of the enterprise from society's point of view, all costs and all benefits associated with its operations must be looked at. Given the constraints of resources and technology, an enterprise must attempt to maximize social utility or social welfare. It suggests that measuring and evaluating public enterprises performance, is of great interest to governments, to enterprise managers and to society as a whole.

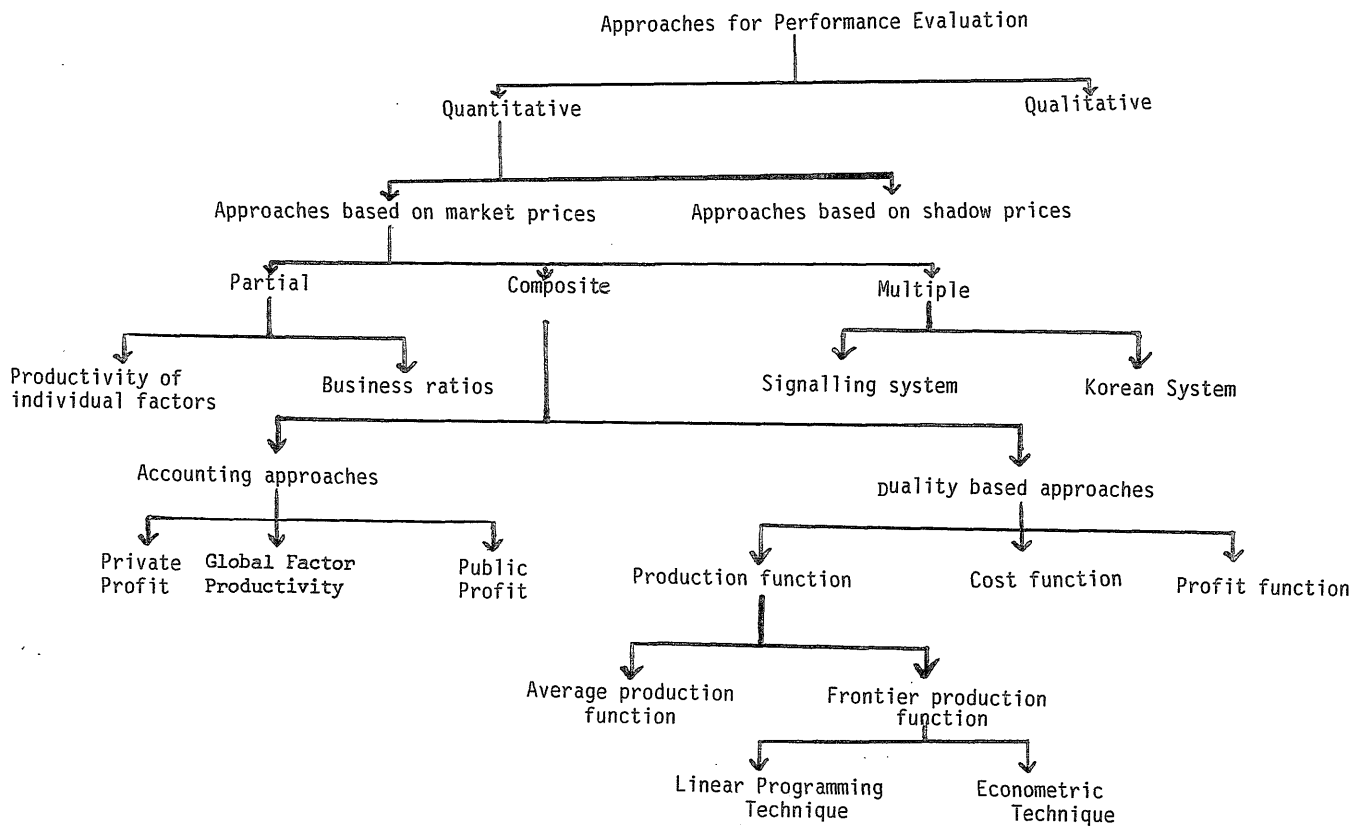
A review of the literature reveals that there has been a respectable number of models and methodologies to evaluate the performance of public enterprises as shown in Figure (5.1). Unlike private enterprises where profit is the accepted yardstick for measuring enterprise performance

(1) Jones, L. (1986), op. cit. p.132

there is very little agreement on a similar measure for public enterprise performance. It is this lack of agreement that has provided a resourceful ground for individuals to propose their own models and methodologies.

From the early discussion in this chapter, we found that the criterion that satisfies the fundamental principles of performance evaluation, that each cost and each benefit should be counted at least once and at most once, and therefore meet our basic requirement for an appropriate criterion, is public profitability, a quantitative approach based on market prices. Several adjustments are to be made on the profit and loss statement to arrive at the ratio of public profit to operating fixed assets. Public profitability is also used to assess managerial performance, and therefore adjustments are also to be made for changes in those factors and constraints since they affect the size of the public profit but are out of management's control.

FIGURE 5.1 The Main Approaches to Performance Evaluation



CHAPTER 6

Empirical Studies on Performance

A Selective Review

6.1 Introduction

There exists a significant literature on the empirical question of measuring some sort of performance for public enterprises. There is no absolute model of performance, therefore some works proceed through direct statistical analysis of time series, or cross-sectional data of the enterprises themselves: others make comparisons with private enterprises. Many of the empirical studies undertaken into public vs private enterprises to assess performance are based upon the study of three distinct areas, productivity, cost and profitability. A large bulk of these studies come from North America where the share of private production in the economy is much greater than in most European countries.[1]

The structure of this chapter is as follows: Section 2 opens by considering the question of how public enterprises differ from private enterprises followed by a brief review of the essential features of the key

(1) H Parris et. al. (1987) Public Enterprises in Western Europe, London, Croom Helm, Chapter (8).

contributions on this matter (public vs private). The section also contains a selective review of some of the main empirical studies that exist in the literature. The reasons behind selecting these studies are that they:

1) cover a wide range of activities (railroad, electric utilities, airlines and telecommunications) in different countries (UK, USA, Australia and Canada).
2) use nearly all of the comparative performance measures (productivity, cost and profit and profitability).

Section 3 highlights those systems which use public profitability for evaluating the performance of public enterprises, namely, the Pakistan system and the Korean system. Section 4 reviews a case study of the evaluation of public enterprise performance using public profitability as the primary criterion, while the final section is assigned to concluding comments.

6.2 Empirical Performance Comparison of Private and Public Enterprises

Before we start reviewing some of the main empirical studies on the comparative performance of private and public enterprises, it is first necessary to consider the question of how public enterprises differ from their private equivalent . Two basic approaches exist in the literature, that of property rights and of public choice.

The property rights approach focuses upon the differences in the ease of captureability of economic surplus of a resource, and the rights to direct an asset's use, alter its form or transfer its claims between existent and potential owners.[1] In other words, it emphasizes the differences in incentives between public and private enterprises, caused by the differential ability of owners (public or private) to monitor management, and the problems that emerge when the objectives of owners and their agents (managers) diverge.

A significant body of research specifically citing property rights as the basis for differences in relative behaviour and efficiency between private and public enterprises now exists. An earlier survey of literature by Borcherding et. al. summarizes the results of a number of studies covering a wide range of activities (including air, bus and rail transport, electric and water utilities, refuse collection and insurance) in the USA, the Federal Republic of Germany, Australia, Canada and Switzerland. The findings in most of the studies in the survey are consistent with the notion that public enterprises have higher unit cost structures. "Of the more than 50 studies,

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(1) Borcherding et. al. "Comparing the Efficiency of Private and Public Production: The Evidence from Five Countries", Zeitschrift fur NationaloKonomie: Journal of Economics, Supplement 2, 1982, p.134.

only three by Pier, Vernon and Wicks (1974)[1] on garbage collection, Meyer (1975)[2] on electricity utilities and Lindsay (1975, 1976)[3] on veterans' hospitals indicate that public are less costly than private firms.... In only five other studies for North America... do the data indicate no difference".[4]

Millward and Parker found the evidence inconclusive, or even the opposite to what was expected. They conducted an extensive review of empirical findings concluding that "there is at present no general support for the proposition that public enterprises are less cost efficient than private firms". Furthermore, "these findings... led some to the conclusion that public enterprises were generally inefficient... subsequent work... suggests that such a conclusion cannot be drawn. In any case, one of the major problems in assessing the findings...is to what extent they can be uniquely attributed to a particular hypothesis about

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(1) W J Pier, R B Vernon, and J H Wicks (1974) "An empirical comparison of government and private production efficiency", National Tax Journal, 27, pp.653-656.

(2) R A Meyer (1975) "Publicly owned versus privately owned utilities: A Policy Choice" Review of Economics and Statistics, 57, pp. 391 - 399.

(3) C M Lindsay (1975) "Veterans Administration Hospitals: An Economic Analysis of Government Enterprise", Washington DC.
— C M Lindsay (1976) "A theory of government enterprise", Journal of Political Economy, 87, pp. 1061 - 1077.

(4) Borcherding et. al. (1982) op. cit.

the behaviour of public firms relative to private". [1]

The public choice approach, on the other hand, emphasizes the lack of competition in the public sector compared to the private one. The question raised by the public choice school and particularly by Buchanan (1968)[2] is what forces determine prices when they are shielded from direct influence of the market forces and subjected to multilateral monopoly situations with conflicts among the relevant political groups such as producers, consumers, unions, government, and so on ? A normal conflict is that which may dominate between the government on the one hand and the bureaucracy of public enterprises on the other. Such matters are largely directed by the so-called theory of bureaucracy, pioneered by Niskanen.[3]

In his model the bureaucracy dominates the government because of its informational superiority and pursues the objectives of more pay, power and prestige. Accordingly, if the bureaucratic public managers want to maximize those "three p's", they choose pricing rules and investment patterns which maximize the number of their subordinates

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(1) Robert Millward and David M Parker "Public and private enterprise: Comparative Behaviour and Relative Efficiency", in R Millward et. al. Public Sector Economics, Longman Group Ltd (1983), p.252.

(2) Buchanan, J M (1968)"A Public Choice Approach to Public Utility Pricing" Public Choice, Vol. 5, p.1-17.

(3) Niskanen, W. "Bureaucracy and Representative Government", Chicago, Aldine Atherton, (1971).

and the amount of money they can decide upon.[1]

Therefore, according to Borcherding et. al. "the mainstream of analysis deals not so much with public utilities (or even nationalized industries) but looks closer at the public institutions and public bureaucracies which operate these institutions. Thus, it considers the presence of bureaucracy in a more direct manner than does the property rights literature".[2] However, they conclude that "governmental agencies and firms have distinct biases leading to higher production costs, just as the property rights literature suggests, but excessive outputs as well. The latter obtains because the bureaucracy can affect demand more readily under monopoly public ownership by the strength of its members votes and/or lobbying efforts".[3]

Evidence on the comparative performance of public and private enterprises is drawn from a variety of different studies and surveys. [4] The problem is not in obtaining the evidence, but making good economic sense of it.

(1) See also P M Jackson (1982), The Political Economy of Bureaucracy, Oxford, Philip Allen.

(2) Borcherding et. al. (1982), op. cit. p.136

(3) Borcherding et. al. (1982), op. cit. p.142

(4) See e.g. Blankart C B, "The Contribution of Public Choice to Public Utility Economics: A Survey" in Finsinger, J. (ed) Public Sector Economics, London, Macmillan,(1983). Also, Borcherding et. al. (1982), op. cit. and Millward R "The Comparative Performance of Public and Private Ownership" in Lord E Roll (ed) The Mixed Economy, London, Macmillan, (1982). For the study of productivity performance in publicly regulated private enterprises, see Cowing T G and R E Stevenson (eds) Productivity Measurement in Regulated Industries, New York, Academic Press, (1981), especially the introductory chapter.

Many of the comparative studies have been restricted to areas where private and public enterprises have been doing a broadly similar job, producing a similar sort of output, and the differences can be isolated and attributed to ownership only. Comparing private and public enterprise is made difficult by problems of cross-country comparison, the choice of indicators, the non-commercial objectives which public enterprises usually pursue, and the circumstances and policies facing public enterprises' inputs and outputs.

6.2.1. Performance Studies on the U.K.

One of the most extensive comparisons of private and public performance in the UK was that carried out by Richard Pryke (1982). [1] He compared three activities; airlines, ferries and hovercrafts, and the sale of electricity and gas appliances, provided by both the public and private sector. Pryke's analysis in each of these activities showed a more profitable private enterprise increasing its market share at the expense of the public sector. The finding of his analysis suggested that the pubic enterprises, which he had studied had been run inefficiently, because of a weakening of incentives resulting from public ownership.

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(1) Pryke, R. "The Comparative Performance of Public and Private Enterprise" Fiscal Studies, July (1982).

A variety of studies have supported Pryke's finding. Detailed comparisons, reported by Ashworth and Forsyth (1984)[1] confirmed that British Airways was not an efficient airline by the standard of other UK based operators or even relative to other national airlines. But it does not of necessity follow that public ownership was the cause of B.A.'s poor performance. It may be the result of the environment within which the enterprise operates, rather than the structure of ownership. In their sample, Air Canada was the most efficient airline. It was the only publicly owned enterprise to operate in the competitive North American airline market, while many of B.A.'s routes were closely regulated by agreements on numbers of operators, fares and capacity. Pryke's other example reinforces the necessity and difficulty of distinguishing the effects on performance of ownership and competitive market conditions. Privately owned European Ferries were more efficient than the publicly owned Sealink. However, there are a number of other private enterprises which have unsuccessfully entered this market. P & O is the most recent ferry company who sold their operations to European Ferries, after several years of losses, as part of a restructuring of operations consequent on threatened takeover of the parent company.[2] The implication is that it is not necessarily intrinsically that private enterprises are more efficient, but that market pressures

(1) Ashworth, M. H. and Forsyth, P. J. (1984) British Airways IFS Report Series, 12, IFS, London.

(2) Kay J A and Thompson D J "Privatisation: A Policy in Search of a Rationale", The Economic Journal, Vol 96, March, (1986).

in the private sector are more effective than in the public. Similar observations apply in the case of gas and electrical appliance retailing. Private enterprises who have not the opportunity of cross-subsidising its retailing activities from its supply monopoly, would not continue to operate showrooms at the cost levels of these public enterprises. Either costs would be reduced or activities abandoned. Pryke concluded that "whatever the reason may be, the record of the activities which I have been investigating does suggest that public ownership leads to performance which is relatively poor by private enterprise standards".[1]

6.2.2 Performance Studies on Railroad

Caves and Christiansen (1980)[2] and Caves, Christiansen, Swanson and Tretheway (1982)[3] carried out the most extensive work on comparing the performance of publicly and privately owned railways in Canada. They

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(1) Richard Pryke (1982), op. cit. p.80.

(2) Caves, D W and L R Christiansen (1980) "The Relative Efficiency of Public and Private Firms in a Competitive Environment: The Case of Canadian Railroads". Journal of Political Economy Vol. 88, pp. 958 - 76.

(3) Caves, D W., Christiansen, L R., Swanson, J A., and Tretheway M W, (1982) "Economic Performance of US and Canadian Railroads: The significance of ownership and the regulatory environment", in Stanbury W T., and Thompson F (eds) Managing Public Enterprises, New York, Praeger, p.123-60.

developed a translogarithmic production function for the two Canadian railway systems, Canadian National (CN), and Canadian Pacific (CP). In order to calculate the growth in total factor productivity associated with moving from one railroad to the other, the authors used passenger miles and freight ton-miles as two indicators of output. As inputs, they included fuel, materials equipment, structures and four grades of labour.

Inputs were weighted by their shares in total cost, instead of by their cost elasticities, given that most factors were purchased in unregulated markets, while in the case of outputs, the data on cost elasticities of each product were obtained from similar US research, and used as product weights. The growth rate in productivity was measured by the sum of growth rates of the two outputs (aggregated by weights), minus the (weighted) sum of growth rates in inputs.

Millward and Parker (1983)[1] reproduce the above relation in the following form:

$$\sum_j v_j r_j - \sum_i a_i r_i$$

where - r_j is the growth rate of output j in moving from one institutional structure to another and measured as the log of $Y_{jt'}$ output in institutional structure t' minus the log of $Y_{jt'}$ output in the other institutional structure.

- The growth rate r_i of input i is measured in an

(1) Millward R and Parker D M (1983) op. cit. p.236.

analogous way.

- The input elasticity of product j is denoted by V_j and the output elasticity of input i by a_i.

Comparing the two railroads, the authors found that privately owned CP had a higher productivity level than publicly owned CN for the period 1956 to 1967. By 1967, CN had exceeded CP and be likely to have a slightly higher growth rate 'til 1979. The total factor productivity index of CN by 1979 was 6 per cent higher than that of CP.

The authors then compared the growth of total factor productivity in the CN and CP to 17 U.S. railroads, for the period of 1956 to 1975. The comparison indicates that CN had a lower level of productivity in 1956 than all of the other railways, while CP had a lower level than all but one of the US railroads. By the mid-1960s, CN and CP had achieved higher levels of total factor productivity than an index of "representative American railroads". They also continued to be on top of the rest of the period under analysis. In 1975, only three small and highly specialized carriers, among U.S. railroads had productivity levels higher than that of CN.

The authors linked the outcomes to the different sorts of regulatory policies in US and Canada. Neither CN nor CP have been subject to the intensive regulation of pricing, entry and service conditions, which have been experienced by their American counterparts. They argued that when

industry was partially deregulated in the early 1960s, major growth in productivity levels of both the CN and CP occurred. They also argued that the existence of competition between the publicly owned CN and the privately owned CP has led to more efficient performance and to rapid productivity growth. The study indicates that only 30 per cent of the difference in productivity between Canadian railroads and US railroads is due to excess capacity in the US resulting from regulatory constraints. The authors' conclusion was that both Canadian railways, as long-term outcomes of deregulation, have adopted better organisational design and control procedures, paid more attention to cost allocation, and used more sophisticated operating and financial management systems than their counterparts in the US.

6.2.3 Performance Studies on Electrical Utilities

Numerous studies have been made of the electricity supply industry in the US, where there are several public and private enterprises. Many of the US studies completed during the 1970s have been on cross-sections of data for the period 1964-72, and on samples of companies including all but the smallest enterprises.

Yunker (1975)[1] studied a sample of 24 public and 49

(1) Yunker J A (1975) "Economic Performance of Public and Private Enterprise: The Case of US Electric Utilities" Journal of Economics and Business, Vol. 28, pp. 60-67.

private utilities. He was motivated by a desire to examine the property rights proposition that the structure of ownership put less pressure on management in public enterprises which are thereby "economically inefficient". He estimated costs as a function of output and the number of customers in 1969. He restricted attention to both public and private enterprises, producing between 0.5 to 4 megawatt hours per annum. With 1,000 customers at least. His findings indicated that costs were lower in public enterprises than in the private ones, but the outcomes were not statistically significant.

Meyer (1975)[1] observed data for 30 public and 30 private electricity producers over the three years 1967, 1968, and 1969. He found that the cost structures of the two types of enterprises differed significantly in all the different functions. Generating costs per megawatt hour decreased with the number of megawatt hours and were generally lower for public enterprises. Total costs for transmission were primarily determined by the number of customers, and the findings indicated that public enterprises had lower costs. Distribution costs were affected in a complex form by both output and the number of customers, but there appeared to be no significant differences between private and public enterprises. Data on maintenance costs per megawatt of capacity, sales and account expenses, and on general and administrative expenses all pointed to lower costs in public enterprises.

(1) Meyer R A (1975), op. cit.

The work of Yunker and Meyer are among the first efforts in assessing relative cost efficiency in the production of electricity, while taking into account the differences in output levels. Data deficiencies limited their analysis to operating costs, labour, fuel and raw materials. They did not examine issues such as the cost of capital. Yunker's study encompassed enterprises that just distributed electricity along with those that generated, transmitted and distributed electricity, and Meyer's public sample included some federal government projects which dwarfed those of other companies.

Pescatrice and Trapani (1980)[1] examined two years of cross-sectional data on 33 private and 23 public enterprises, for the years 1965 and 1970. The authors generated cost of capital for each enterprise and in addition explored differences in generating technology. They argued that capacity might be similar in age and in the mode of production, but could differ significantly in technology and this would be reflected in the costs of production. They calculated a weighted average age of equipment. Costs per megawatt hour were considered as a function of output (the number of megawatt hours); the prices of fuel, capital and labour, the age of equipment: and the form of ownership.

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(1) Pescatrice D R and Trapani J M (1980) "The Performance and Objectives of Public and Private Utilities in the United States", Journal of Public Economics Vol. 13, pp. 259 - 75.

The results of the study pointed out that a shift from public enterprise to private enterprise was associated with an increase in average costs of approximately 25 per cent. Many of the differences could be assigned to the higher level of technology in public enterprises. Therefore, none of these recent US cost studies support the argument that public electricity enterprises have lower productivity and higher unit costs than private enterprises, once differences in output and input prices have been allowed for.

6.2.4. Performance Studies on Airlines

Studies by Davies (1971, 1977, 1980)[1] for the period 1958-74, have frequently been cited in support of the property rights approach by its proponents. Davies compared two domestic Australian airlines, the publicly owned Trans Australian Airlines (TAA) and the privately owned Ansett Transport Industries (ATI). He thought that his comparison represented a perfect matched pair since they operate under the same regulation. They had the same routes, and identical service standards, and take off times. They charged the same prices, and they shared markets evenly. His data point out that ATI had higher

1) Davies D G (1971), "The Efficiency of Public Versus Private Firms: The Case of Australia's Two Airlines", Journal of Law and Economics, Vol. 14, pp. 149-65.
_____(1977) "Property Rights and Economic Efficiency: The Australian Airlines Revisited", Journal of Law and Economics, Vol. 20, pp. 223-27.
_____(1980) "Property Rights in a Regulated Environment: a Reply", Economic Record, June, pp.186 -89

rates of freight tonnage passengers and revenues per employee. Therefore, according to Davies, the publicly owned airlines, TAA, was less efficient because it was overmanned.

(Re-examination) of Davies' analysis has been critically re-examined by Forsyth and Hocking (1980),[1] and William Jordan (1982).[2] These authors have argued that Davies incorrectly combined the data for Ansett and three of its subsidiary carriers. Only Ansett was truly comparable to the publicly owned airlines (TAA), while the other three carriers operated smaller aircraft on short intrastate flights. Similarly, Davies did not keep out data on operations in Papua New Guinea, where the airlines have operated in very different circumstances.

Forsyth and Hocking have also criticized the very legitimacy of Davies' measures. They bluntly characterized the relevance of the revenue per-employee to productivity measure as "obscure". In a physical sense, airlines which transport passengers, freight and mail over short distances are less productive than those which make long flights. The distance dimension of airline outputs cannot be represented by measures like passengers per employee and freight tonnage, but can be indicated clearly by output

(1) Forsyth, P J and Hocking R D (1980), "Property Rights and Efficiency in a Regulated Environment: The CAse of Australian Airlines", Economic Record, June pp. 182-85.
(2) Jordan W A (1982) "Performance of North American and Australian Airlines: Regulation and public enterprise", in W T Stanbury and F Thompson (eds) (1982) op. cit. pp 161-99.

measures like passenger miles or freight ton-miles. Davies did not recognize that the relationship between productivity and distance differs with alternative measures of employee productivity. Because of his choice of measures, the analysis was therefore structured in such a fashion that short-haul intrastate carriers would seem to outperform long-haul interstate carriers - that is, that the privately owned airline would be superior to the publicly owned enterprise.

Re-testing of Davies findings was done by Jordan (1982)[1], who used new data for the period of 1974 to 1979, which became available after Davies' papers were published. The analysis showed the comparable productivity measures for ATI and TAA were almost identical over the period under examination.

The results obtained by Jordan effectively abolished Davies' claim that TAA is less efficient than ATI simply because it is publicly owned. This should not be surprising since, if both the public and private airlines had been in such competition, then it is confused why the managers of publicly owned airline would want to perform in what would easily be perceived as an inferior manner to privately owned airlines. This almost surely would bring public investigation and revised control procedures or guidelines from public and regulatory officials.

(1) Jordan W A (1982) op. cit.

6.2.5. Performance Studies on Telecommunication

The study by de Fontenay and Werner (1983)[1] was concerned primarily with comparing productivity growth for three Canadian telecommunications companies, from 1967 - 1979. The three companies account for over 70 per cent of domestic telecommunications services. Two of them are privately owned and publicly regulated, Bell Canada and British Columbia Telephone (B.C.Tel), while the third is publicly owned and regulated, Alberta Government Telephone (AGT).

The authors used the same methodology employed by Caves et. al. in their study of railroads to measure productivity growth, the translogarithmic cost functions. They observed that the two private enterprises had in some degree much the same levels of efficiency in the years 1972 and 1979. AGT had in 1972 a 10 per cent cost disadvantage relative to B.C.Tel, and a 7 per cent disadvantage compared to Bell Canada. By 1978, a 7 per cent cost advantage had been secured by AGT, over both private firms.

The study did not attempt to sort out the effects of regulation, economies of scale, or competitive behaviour on cost functions since it was based upon aggregated publicly

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(1) Danny M A de Fontenay and Werner W (1983) "Comparing the Efficiency of Firms: Canadian Telecommunication Companies", in L. Courville, de Fontenay A, and Dobell R (eds) Economic Analysis of Telecommunications: Theory and Applications, Elsevier Science Publishers B.V. (North Holland).

available data. Nevertheless, the study does show a clear-cut case of a publicly owned enterprise AGT making major efficiency gains, comparative to privately owned enterprises.

A recent study by Foreman-Peck and Manning (1988)[1] was mainly concerned with comparing total factor productivity indices between British Telecom and five other national European systems. The authors were motivated to check whether BT is performing poorly after being privatized, as is the widely held view, or not.

The authors start with the most widely used measure of telecom productivity, namely, the number of main lines per employee. They found that during the 1980s, all European countries in the sample (Denmark, West Germany, Italy, Norway and Spain) had exceeded the UK in main lines per employee, except Norway. However, main lines per employee, as an indicator of the level of productivity, has been considered by the authors to be a poor and weak indicator. They indicate seven shortcomings in this indicator:

1) "Telecom authorities perform different ranges of services and the degree of vertical integration differs. Some organisations, for example contract out trench-digging for cable-laying, while others perform this task with their own work-force. All maintenance and repair of

(1) Foreman-Peck J and Manning D (1988) "How Well is BT Performing? An International Comparison of Telecommunications Total Factor Productivity", Fiscal Studies, Vol 9, No. 3, pp. 54 - 67.

customer premises equipment is undertaken by some organisations, but not by others.

2) There are differences in the terrain over which the network has to be laid. The Norwegian topography and climate are less favourable than the British for cable-laying.

3) Dispersion of the population raises transmission costs, but could reduce switching costs.

4) Labour legislation or trade union power may restrict the extent to which labour may be shed or even redirected to different tasks.

5) State regulation, such as the "universal service obligation" requiring the national carrier to provide service to a subscriber regardless of cost, can lower most measures of productivity by requiring the telecom organisation to extend service to locations which are difficult to reach and therefore use inordinate amounts of resources.

6) The lower the average number of hours worked, the higher the number of workers required per line, other things being equal.

7) Finally, one telecom organisation may always achieve a higher number of lines per employee by using more capital and equipment per worker than another, without being more efficient. For countries in which labour is relatively expensive it makes sense to do so."[1]

(1) Foreman Peck J and Manning D, (1988), op. cit. p.56-7.

To avoid difficulties 1, 6 and 7, in principle at least, the authors turn to the Total Factor Productivity (TFP) measure. Even with TFP, the comparability between countries must rely on judgement about the contribution of factors 2 to 5, compared with that of management and authorities. The main idea of the TFP index is to build aggregate measures of all outputs, standardized for quality, originated by telecom authorities, and to compare these with aggregate measures of all the inputs in use to supply the outputs. According to the authors, three basic tasks are to be considered in this index. The first one is the choice of the form of the index. The second is selecting the weights by which the measure for each country will be aggregated and finally, identifying and measuring the outputs and the inputs.

Concerning the first task, the authors believe that "a fairly general functional form for the production function is the Translog. Corresponding to this production function is the Tornqvist total factor productivity index".[1] The authors represent this index in the following form:-

$$TFP_{ji} = \frac{\prod_{K=1}^{k=n} \left(\frac{Q_{Kj}}{QK_i} \right)^{\frac{(W_{Ki} + W_{Kj})}{2}}}{\prod_{l=1}^{l=m} \left(\frac{X_{lj}}{X_{li}} \right)^{\frac{(U_{li} + U_{lj})}{2}}}$$

(1) Foreman-peck, J and Manning, D (1988), op. cit. P.58

Where Q_K is an index of kth output;

X_l is an index of the lth input;

W_K is the weight assigned to the Kth Q;

U_l is the weight assigned to the lth X;

n is the number of ouputs;

m is the number of inputs;

i is British Telecom;

j is another national telecom carrier.

According to the Tornqvist TFP index, British Telecom is more efficient if the TFP ratio derived is less than 1, and if ratio is greater than 1, then the comparative country is more efficient.

The weights in this index are the share of each output's revenue in total revenue while outputs would be weighted by their respective proportional contribution to costs as each output increases.

The output measure consists of three classifications; inland calls, international calls and "other" outputs, while the fundamental unit of labour input is man-hours. Inputs used for capital account work are confined to labour, and in some cases, the volume measure of materials input was also adjusted. Volume measures of four types of capital were calculated - land and buildings in square meters, number of vehicles, local network in numbers of access lines, and trunk network in digital channel kilometers.

The finding of the authors indicate that when evaluated by the TFP index, BT is apparently less efficient than Norway and Denmark, and more efficient than Spain and Italy, while there is some ambiguity in comparing BT with West Germany. They conclude that "It appears that neither a large network, nor the organisational and market structure, are major influences upon efficiency. The smallest carriers in the European sample are apparently the most productive."[1] They suggest that splitting BT into separate regional companies, instead of introducing a second carrier, might have been beneficial for BT's productivity.

To calculate a physical measure of land and buildings input, the authors divide the value of land and buildings assets by the average rental price of a square meter of warehouse accommodation. They use an average rental price from "European Marketing Data and Statistics". This gave them a volume measure in total square metres. This kind of measure will be hard to calculate, particularly in the case of telecommunications systems in developing countries, because the data in many developing countries are still characterized by paucity, inadequacy and poor availability.

Investment in telecommunications has to be undertaken ahead of demand and therefore the capacity must be in place before a service is spread out. Productivity just before

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(1) Foreman-Peck J and Manning D (1988), op. cit. p.65.

the service is taken up on a large scale will seem low because the capacity has not been fully utilized. The organisation is on its short-run production function from which it shifts as the service is taken up. Thus, "international comparisons of total factor productivity may be misleading in so far as they compare organisations at different points on their short-run production functions".[1]

6.3 Systems for Evaluating the Performance of Public Enterprises based on Public Profitability

There are two main systems described in the literature for evaluation of the performance of public enterprises based on public profitability as the main criterion, the "signalling system" adopted in Pakistan and the "Korean system" adopted in the Republic of Korea.

6.3.1 The Pakistan Signalling System

In 1981, an international symposium, sponsored by the government of Pakistan and the United Nations, on "Economic Performance of Public Enterprises", was held at Islamabad on 24 - 28th November. As a consequence, the government of Pakistan commissioned the development of a new system of performance evaluation for its public enterprise sector. In 1983 - 84, Pakistan's "signalling system" was implemented. It was designed by Professor L Jones for the

(1) Foreman-Peck J and Manning D (1988) op. cit. p.58

government of Pakistan. The main objective of the system is "to increase the efficiency of the public enterprise sector, by specifying desirable performance, accurately measuring actual performance, and rewarding the management on the basis of the relation between desired and actual performance".[1]

There are many factors which contributed towards the development of the performance evaluation system in Pakistan. The general environment of concern with public enterprises' efficiency, which led to commitment to the idea of a performance evaluation system by the highest levels in the government of Pakistan, is considered to be one of the main reasons. The other factor, according to Shaikh, is the Jones Report which made a significant contribution to the development of the system since it mainly highlighted two points; firstly, the potential gains from a small improvement in the efficiency of public enterprise sectors, where the potential costs of having a system were small compared to the gains; and secondly, the development of a performance evaluation system as a necessary condition for increased efficiency. The World Bank is also playing a crucial role. The Bank financed the preparation of the signalling system under technical assistance to cover the costs of consulting services, computers and other expenses.

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(1) Shaikh A H (1987), "Performance Evaluation of Public Enterprises: Lessons from the Pakistan Experience", Annals of Public and Cooperative Economy, vol. 58, No. 4, p.397.

The Bank staff have shown keen interest in the progress of the system and monitored its implementation closely, not only because of a desire to increase the efficiency of public enterprise in Pakistan, but also because of a desire to develop a general methodology of performance evaluation which could be applicable, with some changes, to other countries as well.[1]

The signalling system consists of three major components: a performance evaluation system; a performance information system, and an incentive system. The performance evaluation system consists of setting appropriate performance targets for each enterprise before the beginning of each fiscal year, and then evaluating the results at the end of the year, according to how close it came to meeting its composite target. The principal criterion in the system is public profitability at constant prices. But since public profitability may encourage managers to ignore activities with current costs, but future benefits, such as maintenance, R & D training etc., other performance indicators are also considered in the second year of implementation. The weights assigned to each indicator vary over time and from one enterprise to another, depending on the relative importance of each indicator for each enterprise. In most cases, the maximum weight of an enterprise's initial target is assigned to public profitability.

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(1) Shaikh A H (1987), op. cit.

Assessing public enterprises' performance requires a regular flow of comprehensive, reliable information. The establishment of an information system and the creation of computerized information in each public enterprise is considered by evaluators to be a necessary step in the implementation of any performance evaluation system. In the case of the signalling system, computer programs were developed to standardize information and to readily convert accounting and price data into public profits, measures of capital stock, and all other performance indicators and business ratios. Quarterly and monthly performance reports for each enterprise are now available to the holding enterprises and the Ministry of Production in Pakistan, the Ministry responsible for all public enterprises, so that they can monitor progress on a continuous basis and identify potential problems early.[1]

Once targets are agreed, performance criterion selected and a comprehensive information system and reporting mechanism implemented, the next step is to develop a reward system that provides incentives to public enterprise managers to achieve those targets. The third component of the signalling system therefore was the incentive system which linked rewards with performance.

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(1) Hartmann A and Nawab S A (1985), "Evaluating Public Manufacturing Enterprises in Pakistan", Finance and Development, September.

Bonus payments to public enterprise management were to be awarded as shown in Table (6.1).

TABLE 6.1

The Signalling Rewards and Scoring Systems

Weighted Scores	Grade	Bonus
1.00 - 1.95	A	3 months extra of base salary
1.96 - 2.45	B	2 months extra of base salary
2.46 - 3.45	C	1 month extra of base salary
3.46 - 4.45	D	½ month extra of base salary
4.46 - 5.00	E	No bonus

Source: Hartmann A and Nawab S A (1985), op. cit. p.29.

In the fiscal year 1983/84, the signalling system was applied to 41 public enterprises on an experimental basis using profitability as the only criterion. The performance of each enterprise was monitored on a month to month basis, and was generally comparable to previous years. In the following year the number of enterprises covered by the system was expanded from 41 to 54. This time, other performance indicators were introduced such as project implementation and returns to non-operating assets. The principal consideration in choosing these criteria was that they be non-duplicative of the main indicator or any other indicator. The score on the qualitative judgement was to range between 1 and 5, where 1 represented superior and 5 poor performance as shown in Table (6.2).

TABLE 6.2

Performance Evaluation System

(Agreed Criteria, Weight and Criterion Values)

Criterion	Units	Weight	Criterion Values 1	2	3	4	5
Public Profitability (at constant prices)	% increase	0.7	20	15	10	5	0
Corporate Planning	Qualitative 1 - 5	0.2					
Project Implement-ation	% Completion	0.1	70	60	50	40	30
Total		1.0					

Source : Shaikh A H (1987) op. cit. p.404

The right definition of the targets is considered the most challenging process in the signalling system. Much of the system's success depends on whether the targets are defined correctly and whether these targets encourage public enterprise managers to modify their managerial behaviour. Targets are currently defined only as single period indicators, ignoring the medium or long term development plans of enterprise. Therefore, appropriate targets also need to be defined as part of a longer term plan, prepared for each enterprise.

There are many lessons to be drawn from the Pakistan experience with the signalling system, the main one of these, according to Shaikh (1987) is that the success of a

performance evaluation system depends mainly on consistent commitment from the highest levels of government. The importance of co-ordination between the designers, implementors and policy makers is the other important lesson from the Pakistan experience. Finally, the education of a broad segment of policy makers and key officials in government and enterprises who will be responsible for running the system, is necessary if systems consisting of new ideas, even the simple ones, to have a chance of successful application.

6.3.2. The Korean System

In the early 1980s, the Republic of Korea introduced a system for evaluating the performance of public enterprises. The public enterprise sector in Korea comprises some 85 corporations, and accounts for 9% of GDP, 7% of total employment in manufacturing sector, and 28% of the country's fixed capital formation. It is used as a vehicle to further achieve the government economic objectives, including export promotion, accelerated development of heavy industries, and wide distribution of the products of public utilities.

Public enterprises are the major holders of domestic credit and external debts in Korea. At the end of 1983, they accounted for 24% and 56% of total external and domestic debentures respectively. Total investment in the sector represented 17% of gross domestic investment of

Korea, while the rate of return of operating capital in 1982 was estimated to be only 3.7% for the public enterprises, against 10.1% for industry as a whole.[1] This, sustains Jones' argument that an improvement of only 5% in the real efficiency of public enterprises in Korea will free resources amounting to 1.7% of GDP, or over one billion U.S. dollars in 1981."[2] Therefore, increased efficiency, according to Park "would bring much needed relief to the three key issues confronting Korea in the early 1980s: price stabilization, external debt reduction and freeing an adequate amount of investment resources for the private sector".[3]

The above points gave rise to rapidly growing concern towards the development of the performance evaluation system in Korea. The Korean system consists of two kinds of performance indicators which are selected so as to measure the results of the year against the trends in recent years, and also the degree of the achievement of pre-agreed management targets for the year. Quantitative indicators are the first kind. These account for 70% of the final score and comprise, on average, six or seven

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(1)For more details see Young C Park (1986) "A system for Evaluating the Performance of Government-Invested Enterprises in the Republic of Korea", World Bank Discussion Paper, No. 3. Washington DC, The World Bank.

(2) Jones, L P (1986), op. cit. p.116.

(3) Park Y. C., (1986), op. cit. p.5

single quantitative indicators. The most important one is public profitability (or private profitability) with an average weight of 20%, as shown in Table (6.3). The other indicators vary from one enterprise to another in accordance with their specific activities.

The second kind of performance indicator are the qualitative indicators (3-4 indicators) which account for 30% of the final score. They tend mainly to assess the public enterprise performance in three areas; the enterprise medium and long-term corporates planning, its R & D activities, and its improvement of management information systems and internal control, or of the quality of the enterprises services.

The performance evaluation system was first applied on an experimental basis in December 1983 to 24 public enterprises. Evaluation was conducted in June 1984 using the results of 1983 for the same 24 public enterprises. The second round of performance evaluation was carried out in June 1985, for 25 public enterprises using the results of 1984.

There are some basic principles governing the performance evaluation system in Korea. The first of these is that evaluation should be limited to the variables within the control of management, and should be based on public profitability and not on private profitability. In some cases, private profitability or productivity was used

TABLE 6.3

Key Indicators of the Korean Performance Evaluation System

Indicators	Subsectors Manufacturing (weight in%)	Banking (weight in %)
(A) Quantitative		
1.Public profitability	20	0
2.Total Deposits/ No. of Employees	0	10
2.Intermediate costs/Sales	10	0
4.Ratio of doubtful loans	0	10
5.Labour cost/Sales	10	10
6.Equity/Deposits	0	10
7.No. of injured people/ One million tons of coal	5	0
8.Administrative costs/ Earnings	0	0
9.Total energy produced/ Coal produced	5	0
10.Operating profits/ Operating Capital	0	10
11.Total Coal mined/ Total reserves	5	0
12.No. of consolidated companies under administration	5	5
13.Administrative costs/ Sales	0	0
14.Total amount of loans committed	0	10
15.Inventory/Sales	5	0
16.R&D expenditures/ Administrative costs	0	5
17.R&D Expenditure/Sales	2	0
18.Equity+Fixed liabilities/ Fixed assets	3	0
Subtotal	(70)	(70)
(B) Qualitative		
1. Long-term corporate planning	10	3
2. R&D	10	6
3. MIS and internal control	10	15
4. Services quality	0	6
Subtotal	(30)	(30)
GRAND TOTAL	(100)	(100)

Source: Park, Y C (1986), op. cit. p.21.

instead of public profitability. For example, in the 1985 evaluation, private profitability was used in 12 public enterprises with an average weight of 10% and labour productivity was also used in 6 public enterprises. A second principle is that both short-term and long-term performance of management should be evaluated and the enterprise management should be credited for improvements in efficiency.

The Korean performance evaluation system according to Park (1986), has met with extraordinary success and made an impressive achievement after two rounds of trial and experimentation. It has become a basic objective oriented control system for the Korean public enterprises. The high degree of political commitment is considered to be the main factor in the system's success. The performance evaluation system has enjoyed the strong support of the president of the Republic of Korea, the Deputy Prime Minister, and other government leaders . The second main factor is the high level of respect which the public enterprises' managers have for system's incentives which rewards in terms of money, the managers and the workers on the basis of predetermined relationships between actual and target levels of performance.[1]

The pecuniary reward is an extra bonus, determined by the public enterprise ranking as shown in Table (6.4). The

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(1) Park, Y C (1986), op. cit.

Table also illustrates the scoring system of the Korean performance evaluation system.

TABLE 6.4
The Korean Rewards and Scoring Systems

Score	Categories	Bonus
95 - 100	Outstanding	3 months extra salary/wages
90 - 94	Excellent	2½ months extra salary/wages
85 - 89	Good	2 months extra salary/wages
80 - 84	Satisfactory	1½ months extra salary/wages
75 - 79	Poor	1 month extra salary/wages

Source: Park, Y. C. (1986) op. cit. p.32 and 43.

However, despite its impressive success, the Korean system still has a number of problems. Park (1986) refers to two serious technical problems facing the Korean system as first analysed by Jones (1984) who argued that "The single most serious defect in the existing system is that criterion values are set in a way which violates the principle of fairness to the enterprise in the sense that changes in demand affect public profitability".[1] The second serious technical defect is the existence of duplicate indicators. As a solution, Professor Jones proposed excluding duplicative indicators from the final

(1) Jones L P (1984) "Notes on current status of performance evaluation of public enterprises in Korea". Boston University. Quoted from Park, Y C (1986), op. cit. p.33.

evaluation system and just concentrating on a single indicator such as public or private profitability. To solve the first problem, he suggested that a "demand-dependent schedule of targets" should be set.

6.4 Application of the Evaluation of Public Enterprise Performance Using Public Profitability

An application of public profitability at current and constant prices as the primary criterion of performance evaluation of public enterprises has been done by Mehdi (1985).[1] He chose the cement corporation in Pakistan as a case study. The analysis covered the period from 1976 - 77 to 1982 - 1983 when the enterprise enjoyed a monopolistic position and the cement prices are controlled by the Ministry of Finance. The fundamental reason for choosing this enterprise, according to Mehdi, is to demonstrate the special relevance of this system (performance evaluation) in a situation where prices are controlled by the government.

In his anlysis, the cement corporation experienced a rising trend in its standard private profit. The trend shows that private profit nearly doubled during the period 1977 - 1978 to 1981 - 82, and at the same time, public profit at current prices shows a similar rising trend. In order to arrive at the public profit, several adjustments

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(1) Mehdi, I. (1985) op. cit. pp. 216-230.

on returns to some non-shareholders, non-operational income, depreciation, opportunity cost of working capital and adjustments from future periods were made.

The result of the above adjustments show a higher level of public profit at factor cost than standard private profit mainly due to the net effect of subsidies received and interest and taxes paid. To assess the real performance of the cement corporation, Mehdi examined public profit at current and constant prices to find out how much of the improvement in the public profit was due to relevant price movements of inputs and outputs, and how much due to changes in the quantity of inputs relevant to output. This is so important in this case because as mentioned earlier, the prices of cement in Pakistan are fixed and controlled by the government (Ministry of Finance).

Mehdi argues that the major constraints in the generation of larger surplus at current market prices by the Cement Corporation are due to higher prices of inputs without a corresponding increase in the output price. During the first four years under review, the corporation had a nominal real net increase in assets which doubled in the years 1980 - 81 when the expansion project was commissioned. By dividing public profit at current or constant prices by fixed operating assets at their respective prices, the outcome is the primary criterion called public profitability. The Cement Corporation shows

a substantially high level of return on operating assts except for the years 1978 - 79 to 1980 - 81 when an expansion project had just been commissioned.

Mehdi observes that the performance of the corporation is even more impressive if we look at public profitability at constant market prices. He concluded that "this price series demonstrates that the performance has been at a much higher level than the public profitability at current price and private profit after tax. This clearly indicates how the government pricing policy is distorting the real performance picture of this company". He added that "an improvement in the capacity utilization (operating assets remaining the same), and a decline in the public profit at constant prices, clearly shows that the management needs to improve its management of costs which has brought profit down, despite the increase in production".[1]

6.5 Concluding Comments

In sum, the review of literature dealing with the relative performance of private and public enterprises suggests that no simple generalisation about superiority of private enterprise performance can be sustained. A competitive environment appears to be a stronger component in improving enterprises' performance than the form of ownership. The American experience shows that the

(1) Mehdi, I. (1985), op. cit. p.221.

regulation of private enterprises leads to higher cost levels than public enterprises and as a consequence, private enterprises do not perform better than public enterprises and may do worse.

Public profitability is now considered to be one of the most important criteria in the evaluation of public enterprises performance in many countries. New systems for evaluating the performance of public enterprises based on public profitability were developed in both Pakistan and Korea. Despite some technical flows and weaknesses, the systems can be considered to be an impressive achievement. The most important common factor in the systems' success is the highest level of political commitment.

The experience of the two countries will be useful to policy makers and international agencies concerned with raising the efficiency of public enterprise. It is also helpful for academics and consultants involved with the design of performance evaluation systems.

CHAPTER 7

Evaluation of the TCC Performance

7.1 Introduction

Having justified in chapter 5 why we have chosen public profitability as the primary criterion for the evaluation of the TCC rather than other approaches, this chapter is therefore devotes itself to the application of the above mentioned accounting approach to the evaluation of the TCC performance. To assess the general performance and narrow down the trends in real performance of the TCC management, we attempt to identify the levels and trends of the major indicators and sub-indicators.

The first step is to rearrange the information contained in the accounting documents of TCC into economically relevant categories and then to calculate public profit in current and constant prices as a measure of the surplus generated by the TCC due to its own productive activities (sections 2, and 3). To isolate the underlying trend in managerial performance, public profits in current prices were adjusted for non-efficiency related factors affecting observed TCC performance. The resulting indicator was public profitability in constant prices (section 4). Analyzing the trend in performance will also

take place in this section, while the final section is devoted to concluding comments.

The study covers a six year period from 1982 to 1987 and that because only in 1981, annual accounts have been compiled by the TCC with the assistance of a firm of professional accountants (see Chapter 3). In order to calculate public profit, detailed financial accounts, profit and loss statement, balance sheets, fixed assets schedule, and the accompanying notes were collected for every year.

7.2 The evaluation process

One of the best approaches to evaluate the performance of any enterprise is to compare it with another similar enterprise, or enterprises dealing with the same activity or activities operating under similar circumstances. In the case of TCC, it is the only enterprise in Jordan dealing with the telecommunications - local, national and international - which makes it impossibile to make a domestic comparison. Comparison with similar enterprises elsewhere is hard to make also because of differences in market structures, pricing and accounting procedures, employment policies as well as the relative degree of use of new switching and transmission technologies etc. If comparison with domestic or foreign enterprises is

difficult to do, then how is a similar single enterprise to be found as a basis for comparison?

The best available approach for comparing and evaluating enterprise "A" in year "t" is provided by the same enterprise (the most similar) in year "t-1". This leads to the use of the previous year's performance as the criterion value against which the present year's performance is judged. The focus, is, therefore, on the trend in performance rather than the level. Things may change from year to year even for a single enterprise, most importantly prices. Such change should be treated automatically by shifting to constant price evaluations.

The methodology used here suggests that we begin with private profit (after tax) and then make a series of adjustments which lead to a better measure of the TCC performance, bearing in mind the following points:

I private profit is the crude existing starting point.

II adjustments are made to reflect the differences between public and private benefits and costs, yielding public profit at current market prices.

III adjustments are made for two major factors generally beyond managers control (prices and the quantity of capital they have to work with) yielding public

profitability at constant market prices which covers static operational performance, plus any non-commercial or dynamic effects which can be valued in monetary terms.

The information provided in the annual accounts of the TCC constitutes the starting point of our analysis. Table (7-4) beginning on page 34 of this Chapter, provides us with the TCC profit and loss statement in thousands of JDs for the years under analysis.

The top half of the table describes the generation of surplus by the TCC activities, while the bottom half of the table provides information on the distribution of that surplus. The main point to take into account is the distinction between operating and non-operating revenue of the TCC. The return to operating assets is the net contribution of the TCC to society due to its own productive activities. Non-operating revenues are not generated by the TCC$ own productive activities and represent rather a net claim of the TCC on the surplus generated by some other productive entity.

In calculating public profit it is important to recognise that working capital held by the TCC management is a factor of production which enhances the capacity for generating surplus by the TCC. It also has a real

opportunity cost to society which must be deducted from the return of operating assets to arrive at the public profit (quasi rent) generated by the TCC.

The stock of working capital for each year is calculated as the average of that year's stocks of financial working capital and inventories. The information is readily available in the asset side of the balance sheet (Table 7.5).

Financial working capital includes cash, demand deposits, accounts receivables, prepayments etc., while inventories includes all outputs and input inventories plus stores, spares etc. The interest rate used was the average short-term deposit rate for each year under analysis as recorded by the Central Bank of Jordan.

Using 1982 as the base year, the Gross National Product (GNP) deflator, whose framework contains all the goods and services that enter into value added in the Gross National Product, was used to adjust the corresponding categories in current prices, to arrive at inputs, outputs and public profits in constant prices. The GNP deflator shows whether and by how much the combination of goods constituting the Gross National Product valued at current prices, has become more expensive relative to the prices

that prevailed in the base year.

The only available alternative to the GNP deflator in Jordan is the General Price Index. This index does not actually represent the inflationary experience of the entire country, since the cost of living index is based on a limited sample of goods and services purchased in the capital and other major urban areas and is therefore unrepresentative of the consumption patterns of the greater number of the Jordanian population residing in rural areas. The index can also be criticized because it fails to reflect the quality changes taking place in consumer goods as well as the addition of new products, and because it reflects the lower prices from improved methods of distribution very slowly. On this basis, we believe that the GNP deflator is the best available and the most accurate and meaningful measure for general use.

7.3 Public Profits in Current and Constant Prices

Private accounting profits are concerned only with the returns to the equity holders, while performance evaluation from society's vantage point is concerned with the total returns to both equity and non-equity holders. It follows that privately relevant profit is completely different from publicly relevant profit. Thus, in this section we intend

to calculate publicly relevant or simply public profits in constant prices, as a measure of the economic surplus or quasi rents, generated by the TCC.

Table (7.1) indicates the various adjustments made to private profit in order to arrive at public profit which basically differs from private profit in three ways:

1. It includes other distributions of surplus (taxes, interest, depreciation and amortization).
2. It excludes various non-operational sources of income (interest earnings, subsidies, net non-operational income).
3. It deducts the opportunity cost of working capital.

Any of these factors can create a divergence between public and private profit. The major differences in the case of TCC are in interest payments, depreciation (& amortization), and the opportunity cost of working capital. The data in Table (7.1) point out to a substantial increase in the level of public profit, than that of private profit for most of the period.

Underlying Table 7.1's results are a number of differences between publicly and privately relevant accounting categories which contribute most to the

TABLE 7.1

Reconciliation of TCC Public and Private Profit in JD'000

	1982	1983	1984	1985	1986	1987
Private Profit after tax	7998	17563	18562	20485	18515	20054
+ Return to non-shareholders: Income tax	000	000	000	000	000	000
Interest payments	385	283	1152	1143	3284	4127
Other distributions	000	000	000	000	000	000
Sub total	8383	17846	19714	21628	21799	24181
- Non-operational returns (net): Other revenues	264	506	664	896	1024	1501
Sub total	8119	17340	19050	20732	20775	22680
+ Depreciation (& Amortization)	1976	2195	3288	5538	5998	7106
Sub total	10095	19535	22338	26270	26773	29786
-Opportunity cost of working capital	1572	3172	6081	4937	4051	4602
Sub Total	8523	16363	16257	21333	22722	25184
-Adjustments from + future periods	000	000	000	000	0000	000
=public profit (at factor cost)	8523	16363	16257	21333	22722	25184
-Subsidies and any indirect taxes	000	000	000	000	000	000
=public profit (at market cost)	8523	16363	16257	21333	22722	25184

discrepancy in these two forms of profit. The Jordanian Companies' law is not imposed on TCC, since in its present status as a public corporation, TCC is operated and managed as any government department. On this basis, TCC is not required to pay any income tax, hence all its revenues are channelled into an account in the Central Bank of Jordan as any other government revenues (see Chapter 3). The only payments TCC made under the category of return to non-shareholders are the interest payments on its long-term loans, which it has taken to finance the expansion and modernization of telecommunications services (particularly the projects in the previous 5 Year Plan 1981-1985). These payments increase dramatically during the period under analysis, as shown, and have been added back since they are a benefit generated by the TCC and distributed to financial institutions.

TCC has earned a respectable sum in the form of non-operational returns, mostly interest income. Such returns are deducted from public profit since they are derived from non-operational activity of the TCC. Depreciation (& amortization) charges rise continuously because of the increase in TCC assets, mainly due to the new expansion and modernization projects. Conventional profit is measured net of depreciation, while public profit measures profits gross of depreciation for the following

reasons:-

Firstly, as mentioned in Chapter 5, the private accountant's choice is overridden by tax considerations which are of secondary importance from the public point of view.

Secondly, the conventional accounting measurement of depreciation differs from that of the economist, who prefers to deduct "physical deterioration" as a function of use. The former is determined by tax laws and has no correspondence with the latter, the actual rate of deterioration, which is a variable cost, whereas much of the accountant's depreciation is a fixed cost, which is contradictory to the strict computation of public profit which is variable benefits less variable costs.

The final major difference between private and public profit is due to the opportunity cost of capital. For a private enterprise, this adjustment is not required since the denominator of private profitability usually includes both fixed and working assets, while for public enterprises, the denominator of public profitability includes only fixed operating assets and therefore we must charge for working capital in the numerator. Also, this method should induce managers to hold the minimum level of

working capital consistent with efficient operation.

TCC working capital, i.e. inventories and financial working capital had fluctuated over the period. This is reflected in the similar fluctuation trend in the opportunity cost of working capital which shot up in 1983 and 1984. This is attributable to the expansion and new projects which naturally needed an increase in working capital to cope with the larger scale of operations.

Since 1981, the TCC has had its annual accounts audited by external qualified auditors. Delays were experienced in the preparation and auditing of TCC commercial accounts (nearly a year). This means that all the costs and benefits which are known after the end of a particular year, will be considered in the accounts of the year concerned. This explains why there are no amounts under the category of adjustments from the previous year's in profit and loss statement (Table 7.4) and, thereafter, under the category of adjustments from future periods in Table (7.1).

The results of the performance evaluation on the basis of public profits in current and constant prices, are summarised in Table (7.2), while Figures (7.1), (7.2) display the trend of these indicators. As Table (7.1) and

Figure (7.1) show, public profit at current prices is substantially higher than private profit for most of the period, and increases dramatically in the second half of the period under review. The reason for this may be seen by looking at the reconciliation of public and private profit in Table (7.1). The main source of discrepancy is the treatment of interest payments and depreciation which constitutes a private cost, but are a transfer from the society's point of view.

Table (7.1) shows that the reason for the fall in public profits in 1984 compared to the previous year by JD 106,000 was due to the rapid increase in the opportunity cost of working capital from JD 3,172,000 in 1983 to JD 6,081,000 in 1984.

Public profit in current prices change not only in response to changes in performance but also changes in prices and in response to other non-efficiency related factors affecting observed TCC performance. To the extent that prices are exogenously determined and are beyond the control of management, their effect on the TCC performance should be adjusted to understand real changes in performance. The next step then is to calculate public profit in constant prices.

As mentioned earlier, the GNP deflator was used to deflate the corresponding categories in current prices, in order to arrive at inputs, outputs and public profits in constant prices. The question which arises is, what is the consequence of adjusting for changes in prices ? To start with, it is worth remembering that a new tariff and fees structure has been in operation since the 1st of November 1983 until the period of this research. Thus, it can be said that the prices of the TCC output are fixed during the period under analysis, while on the other hand the prices of inputs have risen yearly as are reflected in the bottom half of the TCC profit and loss statement (Table 7.4). Furthermore, commencing 1st January 1986, the first 2,000 local pulses per year were free of charge whereas before that, only 1,000 pulses were free. The impact of this increase in free domestic calls can be seen in Table (4.5) where more than 56% of the subscribers in Amman multi-exchange area, which consist of two thirds of the telephone subscribers in the country, do not reach the 2,000 free pulses. As a consequence, the domestic telephone revenues which rose from JD 6,609,000 in 1984, to JD 10,352,000 in 1985 fell by JD 152,000 in 1986 and amounted to only JD 10,200,000.

Even allowing for the effects of this adverse relative price movement, i.e. increases of inputs prices and free

domestic calls compared with fixed prices of output, the performance of the TCC shows an impressive improvement for all the years under review. Public profits at constant prices increase yearly and it shows a rising trend (see Figure 7.2). All this means that the TCC absorbs price increases in the input side since it cannot pass them on to consumers. Given this, it can be inferred that in constant market prices, the overall performance of the TCC and the managerial performance in particular has improved yearly for all periods under analysis.

Public profits in constant prices can change not only owing to changes in technical efficiency, but also due to changes in the endowment of fixed factors. In the case of telecommunications services in Jordan, where demand is increasing and capacity is being increased basically in response, it can be argued that profits will rise simply because of an expansion of volume. In this situation, how should the management of the TCC be evaluated ?

The answer to this question may depend upon the nature of the institutional arrangement and the particular focus of the study. If investment decisions, for example, are within the powers and control of the management, then the act of responding to increased demand by expanding scale, represents, in itself, one form of efficiency, for which

the management should be appreciated. If, however, changes in capital stock are outside the powers and control of the management, (as usually they are in public enterprises and, in the case of TCC, where investment decisions have been taken and approved at the level of the Council of Ministries, on the basis of macroeconomic projects of demand and the availability of funds) then the management should be evaluated on the basis of how much surplus is generated, given the size of, or changes in, the stock of the fixed factor.

It can be argued that even when newly acquired stock does not add directly to capacity, changes in capital stock enhances the management's potential for increasing the surplus. To understand this argument, one has to realize that the marginal productivity of capital depends upon two things: direct additions to output, and increases in the productivity of other inputs. According to this logic then, additions to capital are almost always likely to benefit the enterprise, so that a purchase of a computer system for example will enhance the level of potential profit, if not by a direct increase in output, then by increasing the efficiency of input use or worker productivity.

Thus, in view of this argument and the previous

FIGURE 7.1 Trend of Public and Private Profits at Current Prices

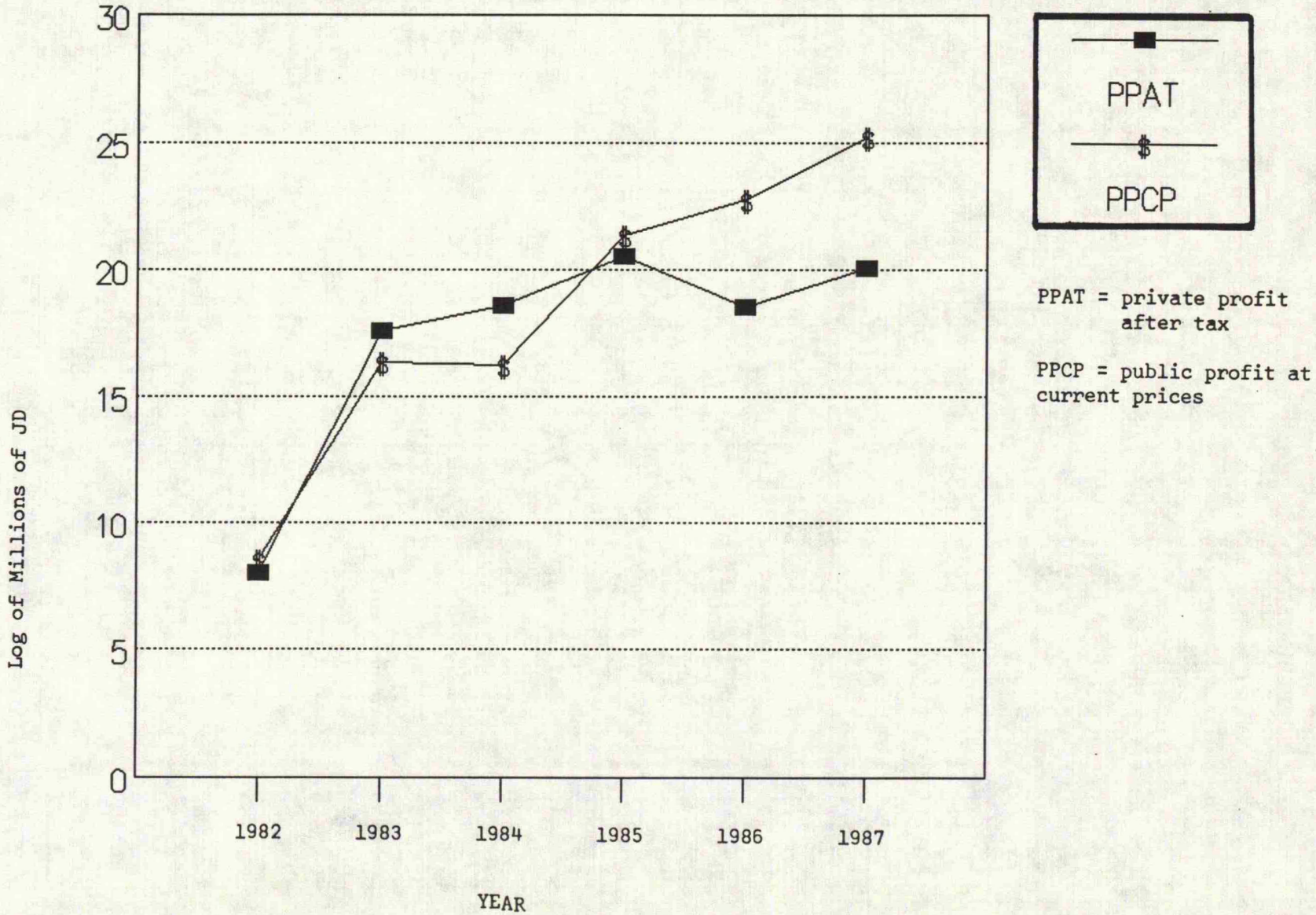
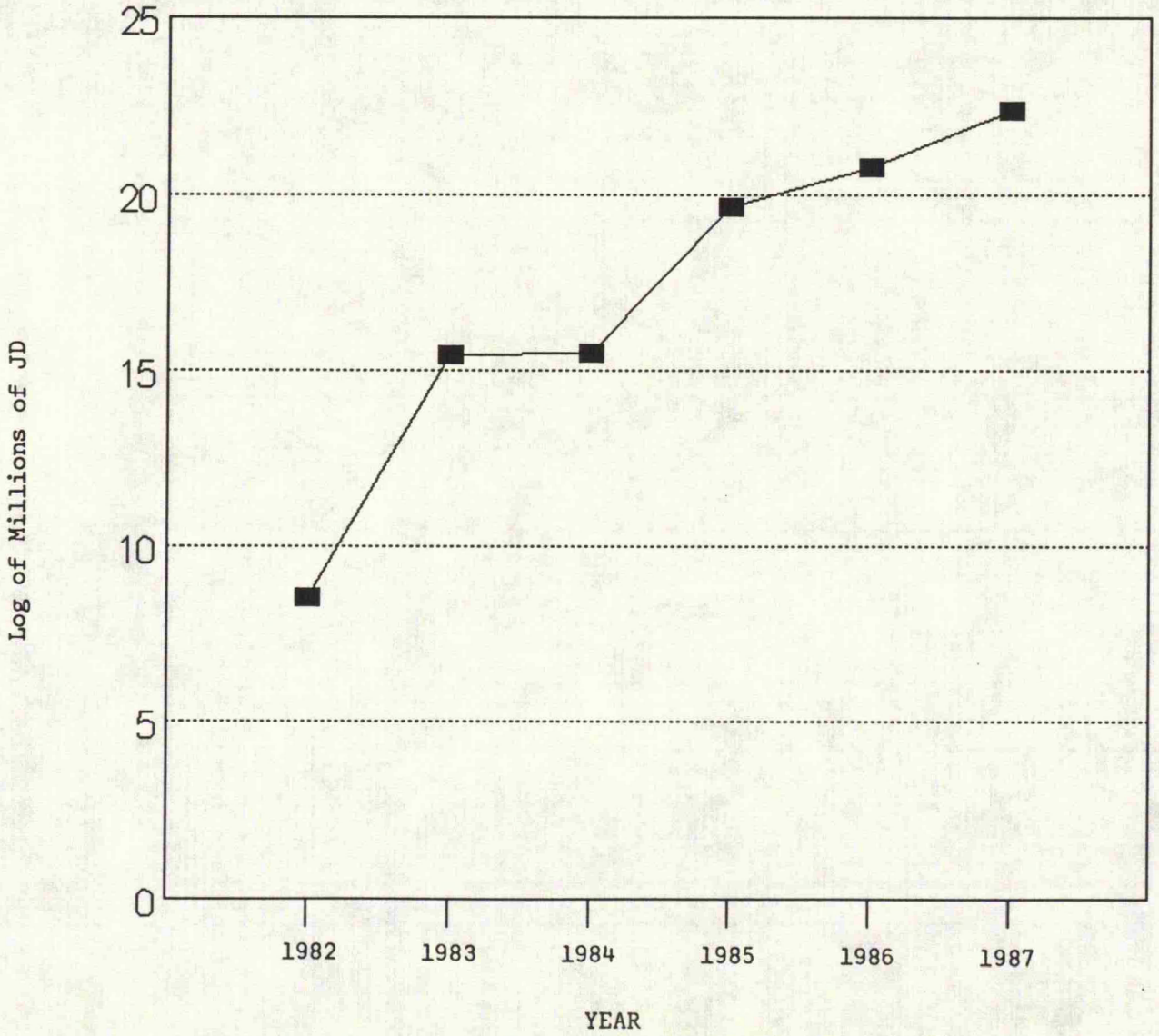


FIGURE 7.2 The Trend of Public Profit at Constant Prices



discussion in chapter 5, our primary indicator of static operational performance will be public profitability in constant prices, that is, public profits divided by the fixed operating assets, both measured in constant prices.

TABLE 7.2

Trend in Performance

Profits (in JD'000)	1982	1983	1984	1985	1986	1987
Private profit (after tax)	7998	17563	18562	20485	18515	20054
Private profit (at constant prices)	7998	16581	17657	18841	16922	17814
Public profit (at current prices)	8523	16363	16257	21333	22722	25184
Public Profit (at constant prices)	8523	15448	15465	19621	20767	22371

7.4 Public Profitability

Having examined the numerator of public profitability in the previous section (i.e. public profit at constant prices), it is time now to do the same with the denominator (i.e. fixed operating assets at constant prices). The purpose of this denominator is to normalize the publicly relevant surplus generated by the "stuff" available to the management to generate this surplus.

Private enterprises use the total book value of all assets (operating and non-operating) on the balance sheet as a measure of the "stuff" or the "capacity" the management has at their disposal to generate private profits. The denominator used for normalizing publicly relevant surplus is different since public profit differs from the above denominator in two ways. Firstly, since public profit does not include non-operating returns, it would be unfair to include non-operating assets in the denominator. Hence, they are excluded. Secondly, as mentioned in Chapter 5, there are two types of operating assets:

a) Fixed operating assets

b) Variable operating assets.

Variable operating assets include inventories of outputs and inputs, and financial operating assets (such as cash in hand, advances and prepayments, accounts receivables, ...etc). This variable capital is what we have earlier referred to as working capital. Since the enterprise has been penalized for it already in the numerator via the opportunity cost of working capital, it would be unfair to penalize it once more. Further, since management has some control over its size, it does not represent a constraint in the sense that fixed operating assets do. Therefore, public profits use only

fixed operating assets to normalize public profit.

We are now in a position to put the numerator and denominator of public profitability together and analyze the trend in public profitability. Table (7.3) and Figure (7.3) summarise the results of the public profitability calculation.

Table 7.3

Public Profitability at Constant Prices

Year	1982	1983	1984	1985	1986	1987
Public Profitability	0.200	0.366	0.257	0.166	0.169	0.143

Does an increase or decrease in public profitability necessarily mean an improvement, or decline in performance?

An increase in public profitability will mean an increase in managerial performance if three conditions are met:

(1) If there is no demand constraint. When demand is constrained because of the cost of variable inputs are too high relative to the price of outputs, for example, then in this case, additional capital may remain unutilised, and public profitability would

decrease even though managerial performance may have increased.

In our case, we believe that the TCC is characterised by unconstrained demand for telecommunications services for two reasons. Firstly, its demand is relatively inelastic and has been increasing over time due to increases in population, urbanisation and income. Secondly, the previous Five Year Plan (1981-1985) projected an increase in the telephone penetration rate in Jordan from 2.7 DEL's in the beginning of the plan period, to 5.8 DEL's at the end of 1985, in order to meet the growing demand. As a consequence, the exchange's capacity expanded by more than 300% over the plan period.[1]

(2) The second condition is attributable to the rational structure of public profitability, where an increase in public profitability does not necessarily imply an increase in managerial performance. This is true in the case of the loss making enterprise. For example, an enterprise makes the same amount of loss (negative numerator of profitability) in the two time periods. The only change is in capital stock, the denominator, which has increased. Now, if the same numerator, which is negative is divided by a larger

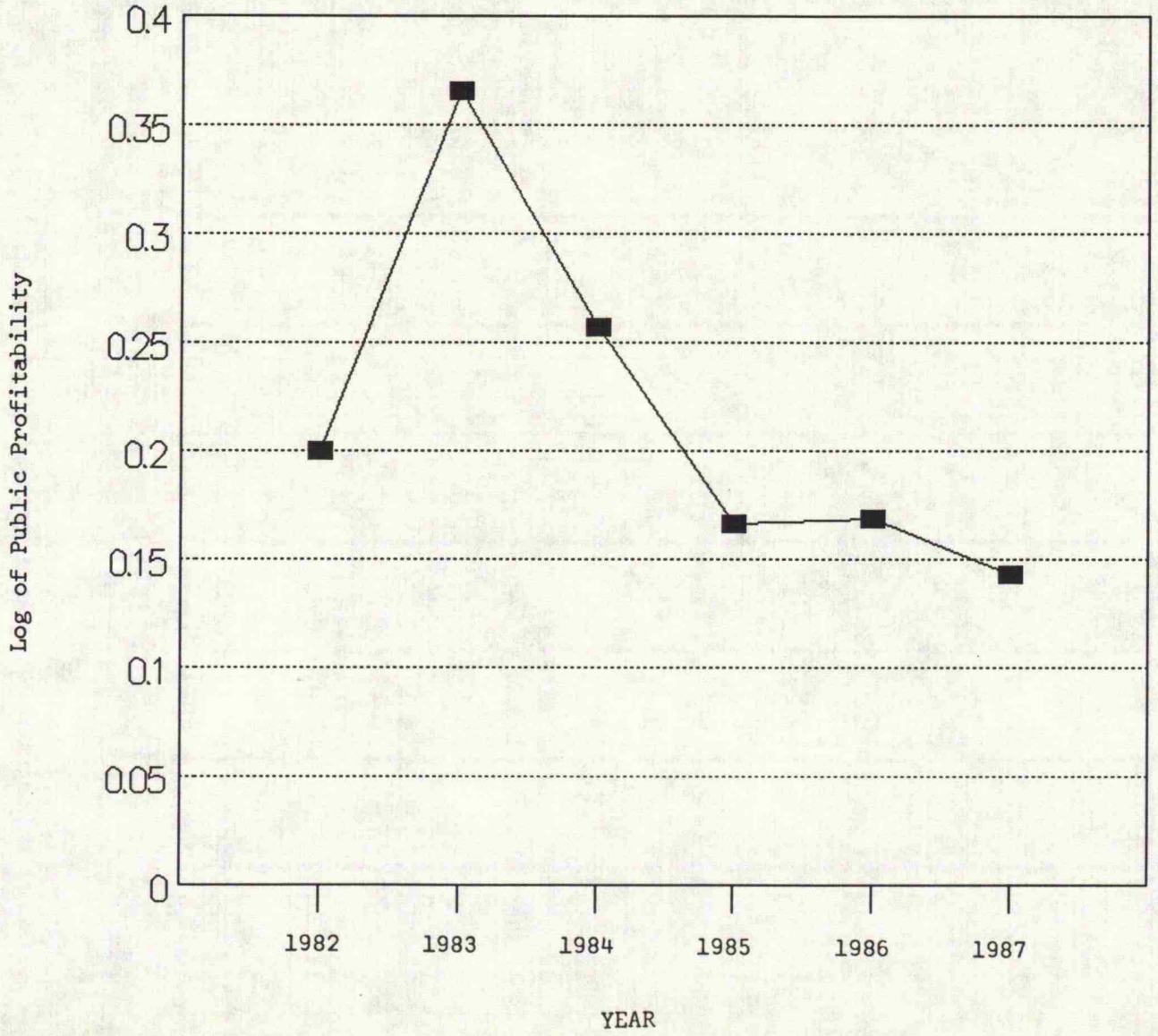
(1) See chapter 4, Section 8

denominator, which is positive, the result will therefore be a smaller negative number. Thus, public profitability which is a ratio, will rise, even though management is getting the same (or even less) surplus from more resources. However, this problem is not encountered in the case of TCC, which has positive profits during the period under consideration as shown in Table (7.2).

(3) If the source of the increase in public profitability, is a rise in the numerator, then an increase in public profitability represents an unambiguous increase in managerial performances but if public profitability is changing due to changes in both the numerator and denominator, capital stock, (as in our case) then an investigation into the cause of such changes is required, to assess and isolate the real changes in performance from other changes.

How might our findings be qualified ? As shown in Figure (7.3), the trend in public profitability shows four phases. In the first phase (1982/83), public profitability started from a high base increasing from 0.200 in 1982 to 0.366 in 1983 or by 83%. The numerator of public profitability ratio (i.e. public profit at constant prices) increased by 92% during this phase, while the denominator

Figure 7.3 Public Profitability at Constant Prices



remained unchanged (see Table 7.7). This phase represents the peak period of introducing and using the new telecommunications technology, with the operating of international exchange by the end of 1982 which yielded immediate results in the following year. As a consequence, the international telephone revenue shot up from JD 6,558,000 in 1982, to JD 17,422,000 in 1983 (see Table 7.4).

The second phase (from 1983-85) witnessed a significant decrease in public profitability. The reasons can be attributable to the high increase in the denominator relative to the numerator. As Table (7.7) shows, fixed operating assets increased in 1984 and 1985 by 42% and 96% respectively. This was due to the new and expansion projects during this period which represents the end period of the 5 year plan (1981-85) where all the projects were commissioned. As a result, a public profitability collapse from 0.366 in 1983, to 0.257 in 1984 and to 0.166 in 1985.

In the third phase a steady improvement in public profitability occurs, followed by a slight decrease in the final phase. Public profit in 1986 totalled JD 20,767,000 compared with JD 19,621,000 in 1985. This increase in the numerator which was mainly due to an increase in interest payments by 187% (from JD 1,143,000 in 1985, to JD

3,284,000 in 1986), which exceeded the increase in the denominator, lead to an increase in public profitability from 0.166 in 1985 to 0.169 in 1986.

In the final phase, fixed operating assets increased by more than 26% and totalled JD 155,425,000 comparing with JD 122,621,000 in 1986. This was due to the commencement of new projects. As a result, public profitability fell from 0.169 to 0.143 in 1987.

To fully understand the trend of public profitability, it is worth bearing in mind that one of the most important tests of management is its ability to control investment decisions and to read the market and so to act accordingly, adjusting its investment plans when the need arises. Such a situation never took place in the TCC simply because, as mentioned earlier, all investment decisions are taken and approved at the level of the Council of Ministers, and therefore injections of capital are out of the control of TCC management.

However, public profit and fixed operating assets both have a rising trend during the period under review, but the huge government investment in the TCC projects, especially in the former 5 Year Plan (1981-85), generate a substantial increase in the denominator of the ratio of public

profitability (i.e. fixed operating assets) relative to the numerator (public profit). This situation caused a fall in public profitability in the second and the final phase of its trend.

7.5 Summary and Conclusions

We have attempted a careful and detailed analysis of the TCC performance during the six year period (1982-1987). Our particular focus has been on the trend in performance. We find that in the process of doing so, we seem to have added a new dimension to the conclusion of chapter four.

TCC was successful in achieving its objectives during the previous Five Year Plan (1981-85). It can be said that the findings of this chapter also point out that the TCC performance in general, and the managerial performance in particular - according to public profit at constant prices - has been improved during the yeares under review as Figure (7.2) shows.

The increase in interest payments, depreciation (& amortization) chargers become a major source of public profit in later years. This was due to the increase in the TCC assets as a result of capacity expansion, during the

period under review.

Fixed operating assets shot up in 1984-1985 for example by 36.3% and 96.9% respectively. Telecom investment has to be undertaken ahead of demand and therefore capacity must be in place before a service is extended. Just before the service is taken up, public profitability will appear low because of the small increase in the numerator since the capacity has not been fully utilised, while at the same time, the denominator has increased substantially. However, as more subscribers are connected to the networks, the infrastructure comes to be more fully used, public profitability appears to improve.

Moving to public profitability adds something new to the story. The numerator of public profitability was positive all the time and so was the ratio itself. The denominator on the other hand is likely to be larger, thus making TCC look less efficient. The change in public profitability is due to changes in the numerator, the denominator and capital stock. From Table (7.5) we notice a sharp increase in the value of fixed operating assets, but a gradual increase in the value of assets at book value. How come ?

The increase in the value of fixed operating assets

goes to the very heart of the distinction between these two concepts. During the previous Five Year Plan (1981-1985), TCC witnessed a process of rapid expansion and modernization of its services. Hence, all plants, buildings and others that were classified as work in progress were transferred to the relevant fixed operating assets categories. As noted earlier, work in progress is considered a non-operating asset. This explains why there was a sudden increase in the operating assets category. However, assets of book value include both operating and non-operating assets and is therefore not affected by this internal transfer from one of its subcategories to another of its subcategories.

Public profitability showed a decreasing trend as indicated in Figure (7.3). The question which arises is whether the declining trend in the TCC performance is the outcome of bad performance and inefficient management, or because other factors constrained the TCC to a lower level of profitability?

Public profits at constant prices show an increasing trend. The fall in public profitability can therefore be said to be due to factors other than managerial performance. Hence the trend

in public profitability underestimates the real increase in managerial performance. Public profits at constant prices are again shown to be the best measure for evaluating managerial performance.

Public profitability seems to decrease as a result of the substantial increase in the denominator of the ratio because, as mentioned earlier, of the rapid expansion and modernization of the TCC services. The performance is impressive if public profits at constant prices are looked at. This time series demonstrates that performance has been at a much higher level than the private profit after tax. This clearly indicates that the TCC management has been performed well during the period under analysis.

The result can be used to argue against those who accuse the TCC of inefficiency and bad performance. The results also highlight the fact that the nature of technology, prevalent institutional arrangements and specific policies adopted by the government have a major effect on performance. Government price policy, for example, is a major determinant, both of public enterprise performance, and its perception. On the one hand, pricing policy invokes a behavioral response from the management, on the other, it affects the ex-post profitability calculation of enterprise performance.

Meanwhile it is important to realize that although public profitability is measured in constant prices, it cannot account for the fact that current prices may have output effects which lower the optimal level of output and make the TCC look worse even in constant prices. The only solution, of course, is to set "targets" or "criterion" values that take market factors into account and evaluate management on this basis. The point is that constant pricing will not reflect true efficiency if there are allocative effects.

Finally, account must be taken of special circumstances. The indicators and criterion used in this chapter, may not provide a final answer to the performance evaluation question. However, they equip the decision maker with a clear understanding as to how to judge managerial performance and to find ways of improving the enterprises' contribution to society.

TABLE 7.4

TCC / Profit and Loss Statement in (JD'000)
For the Year Ending December 31st

	1982	1983	1984	1985	1986	1987
Revenues						
Telephone						
Domestic						
Installation	1766	1207	2133	4112	4007	3918
Subscriptions	1768	1714	3174	3564	4309	5587
Excess calls	1015	947	1302	2676	1884	2209
Sub Total	4549	3868	6609	10352	10200	11714
International						
International calls	5637	14257	17344	19579	20044	19310
Leased circuits	487	557	633	688	872	719
Settlements	434	2608	1641	2520	4050	6267
Sub Total	6558	17422	19618	22787	24966	26296
Total of telephone revenues	11107	21290	26227	33139	35166	38010
Telex						
Installation	53	50	42	44	30	16
Subscriptions	576	669	798	831	944	809
Messages	4355	4313	4180	4393	4191	1669
Sub Total	4984	5032	5020	5268	5165	2494
Telegraph	368	321	282	282	252	259
Satellite station	168	264	491	381	392	416
Other Revenues	264	506	664	896	1024	1501
Less:bad debt write-off	000	000	450	675	500	000
Value added tax	000	000	000	000	000	000
Total Revenue	16891	27413	32234	39291	41499	42680

cont/....

Table 7.4 continued...

	1982	1983	1984	1985	1986	1987
Operating Expenses						
Personnel	3862	3966	4614	4978	5702	5813
Materials, maintenance & transport	1325	1574	2095	4428	2904	2826
Depreciation	1976	2195	3288	5538	5998	7106
Satellite station	361	564	727	772	1018	1043
Write-off of obsolete stock	454	835	676	000	1148	54
Consultancy Fees	557	227	433	647	380	316
Value Added Tax	000	000	000	000	000	000
Subtotal	8535	9361	11833	16363	17150	17158
Operation profit	8356	18052	20401	22928	24349	25522
Less: Exchange loss (Gain)	(27)	206	687	1300	2550	1341
Net profit before interest	8383	17846	19714	21628	21799	24181
Less: interest	385	283	1152	1143	3284	4127
Net Profit before tax	7998	17563	18562	20485	18515	20054
Less: Income tax	000	000	000	000	000	000
minus (plus): Adjustments from previous year	000	000	000	000	000	000
Net profit after tax	7998	17563	18562	20485	18515	20054

TABLE 7.5

TCC Balance Sheets for the Years Ending December 31st (JD'000)

	1982	1983	1984	1985	1986	1987
Assets						
Gross fixed assets	53189	57539	79356	149546	159545	205598
Less: Accumulated depreciation	10740	12935	16222	21466	25385	30636
Net fixed assets	42449	44604	63134	128080	134160	174962
Work in progress	16888	43473	56782	5367	24407	9316
Investments	2492	3456	3788	3925	3811	3696
Current Assets						
Cash	531	1145	1842	1712	2436	32
Credit Deposits	000	000	000	000	000	568
Net Accounts receivable	5639	13710	15856	23911	25974	34180
Other Debtors	38	36	206	142	138	8
Inventory	1629	1600	1198	1446	2054	1673
Total Current assets	7837	16491	19102	27211	30602	36461
Total Assets	69666	108024	142806	164583	192980	224435

cont/....

Table 7.5 continued.....

	1982	1983	1984	1985	1986	1987
Liabilities						
Equity						
Government contribution	42308	46967	46967	46967	46967	46967
Retained Earnings	6104	23664	39434	50845	56079	67587
Total equity	48412	70631	86401	97812	103046	114554
Debt outstanding:						
Long term debt	15324	26257	41547	53014	72021	90204
Current Liabilities:						
Current portion of LT Debt	802	610	3691	3858	7437	7776
Suppliers	1782	5599	3149	2949	4789	2977
Contract Retentions	293	1833	4652	3590	2146	4166
Accrued Expenses	458	608	820	637	893	1739
Total current liabilities	3335	8650	12312	11034	15265	16658
Reserves & other:						
sub/con. to projects	811	811	730	694	762	880
Subscribers deposits	884	1025	1166	1379	1556	1744
Indemnity reserves	900	650	650	650	330	395
Sub Total	2595	2486	2546	2723	2648	3019
Total liabilities	21254	37393	56405	66771	89934	109881
Total equity and liabilities	69666	108024	142806	164583	192980	224435

TABLE 7.6

The Opportunity Cost of Working Capital in JD'000

	1982	1983	1984	1985	1986	1987
The average stock of working capital	26203	45319	71546	58088	47662	54147
The interest rate(1)	6.0%	7.0%	8.5%	8.5%	8.5%	8.5%
The Opportunity Cost of working capital	1572	3172	6081	4937	4051	4602

(1) Source: Central Bank of Jordan Monthly Statistical Bulletin Vol. (24), 1988.

TABLE 7.7

Change in Capital Stock

	1982	1983	1984	1985	1986	1987
- capital stock (in JD'000)	48412	70631	86401	97812	103046	14554
- average stock of capital	45359	59521.5	78516	92106.5	100479	108800
Fixed operating assets (at current prices)	42449	44604	63134	128080	134160	174962
Fixed operating assets (at constant prices)	42449	42111	60058	117807	122621	155425

CHAPTER 8

TCC : Options for Privatisation

8.1 Background

During the past few years, an explosion of telecommunications activity occasioned by the technological revolution has occurred. New transmission processes include communications, satellites, optical fibers and various signal compression techniques have been developed. Foremost among switching innovation are packet switching - allowing computerized determination of optimal transmission paths via switching centres - and electronic switching itself, made possible by recent discoveries in microelectronics. Terminal equipment has also undergone improvement in its quality while the overarching technology of telecommunications is digitalization. This may lead from the present proliferation of services and systems to a new harmony and order of the integrated switched digital network (ISDN) currently being discussed and designed in a number of countries.

All these trends in turn have been both causes and consequences of the inexorable merger of telecommunications and data processing technologies during the past several years.

Development in new technology has opened the way for

the provision of new and more advanced telecommunications services which do not fit easily into the existing institutional and regulatory framework. The requirements for change being brought about by these technological and economic pressures are significant and therefore it is argued (by large users of telecommunications services) that the status quo will be difficult to maintain.

In the USA the telephone sector has always been private from the start, except for a short break in 1917-1918 during the Great War. The AT&T has been holding a quasi-monopoly since the 1910s which can be regarded as a real institution known as the "Bell System". AT&T has been restructured as a result of an anti-trust settlement, the terms of which have been the basis of the regulatory instrument.

In the UK and Japan, the main change appears to be the privatisation and liberalisation of the telecommunication sector dominated thus far by a public monopoly. New telecommunications laws were enacted in 1984 and 1985 respectively and as a consequence, in both countries, the previous monopoly service providers, British Telecom (BT) and Nippon Telegraph and Telephone (NTT), now face the challenge of competition from new providers of telecommunications facilities and services.

It is now becoming increasingly clear that shifts in policy are being copied and are spreading. Deregulation

and divestiture in the USA, along with privatisation and liberalisation in the UK and Japan, have effects on other countries. However, other forces are also instrumental in reshaping traditional telecommunications policies. Besides the technological pressure, there are also economic, political and ideological pressure.

Accordingly, this chapter and the following one deals with the TCC options for privatisation.

8.2 Introduction

Privatisation is currently a hot public policy issue, much discussed and highly controversial. It refers to ownership, but it is a word which has come to be used to cover a range of different policy proposals. Government initiatives in the area of privatisation of public enterprises and assets have increased substantially in recent years. There are many reasons for this, amongst the most important having to do with a combination of growing pressures on public budgets and mounting evidence that the competitive discipline of private markets increases efficiency, producing greater equality at lower cost.

Unlike most other popular concepts, where there is usually more talk than action, privatisation has become a major activity in many countries. Many governments have effectively privatised public enterprises. An even larger number have announced privatisation programmes but are only

at the earliest stages of implementing them in any substantial way. Even the socialist countries have thus been affected by the movement and pressures for privatisation have surfaced in almost all of the Eastern Bloc countries. The issues related to privatisation are many, but first, it is necessary to clarify the meaning of the term privatisation. This will take place in the following section. The push towards privatisation will be examined in section (4), while section (5) deals with the justification for privatisation. An evaluation of the justification will be analyzed in section (6). In section (7) we will review the forms of privatisation, while the final section will be devoted to assessing the privatisation forms and concluding comments.

8.3 The Concept of Privatisation

The word 'privatisation' itself is an umbrella term that has come to describe a multitude of government initiatives designed to increase the role of the private sector. The recent trend, world-wide, while possibly having its origins in a shift towards more conservative, private enterprise-oriented governments to start with, seems now to be based on the growing consensus of conservatives and liberals alike that private sector management and competition in the market place make for greater economic efficiency and social well-being than do regimes involving significant state control of the economy and ownership of enterprises. The fact that many socialist

countries are also moving towards privatisation, to varying degrees, speaks to this point.

The idea of privatisation is far from new. In fact, many countries over the centuries have been swept by political and other forces encouraging privatisation, then nationalisation, and then privatisation again. Sir Alfred Sherman (1986) states that "what is called privatisation is really very largely re-privatisation. In Britain, the US, Latin America and Asian countries like Sri Lanka and Bangladesh, much of the public sector is the result of earlier nationalisations. These countries possess a cadre of professionals, bankers and managers capable of re-privatising with the added moral conviction generated by the visible failure of nationalisation and regulation. It is, in parts of the Muslim world and sub-Saharan Africa, with little in the way of a free enterprise tradition, that privatisation seems to lack the basic human and social-philosophical or psychological infrastructure."[1]

Privatisation in the current usage of the term, mainly relates to the transfer of ownership from the public to the private sector. An important consideration, however, is whether privatisation includes the transfer of control of the important business inputs and outputs and operational management as well. This is important since the main benefits of privatisation relate to competitive and

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(1) Sir Alfred Sherman, (1986) "Why the Americans are Exporting Their Gospel?", Financial Weekly, March 6, p.9.

efficiency factors which can only be achieved if management is reasonably independent of governmental control. It follows that, if the government controls inputs and outputs, then privatisation of ownership (including day-to-day management) can have little effect on enterprise efficiency and on economic growth in general.

The increasing concern over the efficiency of the public enterprise sector has been the widespread interest in privatisation. However, much of the current attention being focussed on privatisation is mainly due to the pressures employed to push privatisation as a policy option.

8.4 The Push Towards Privatisation

Interest in privatisation is spreading worldwide and its appearance on the development agenda is largely due to external pressures from international aid donors and banking agencies such as the World Bank and the International Monetary Fund (IMF). The World Bank points to growing debts of many public enterprises swallowing public spending which could otherwise go to health or education, for example. The IMF's attitude towards public ownership is similar to that of the World Bank. In a collection of three papers on public enterprise published by the Fund, the Managing Director, Jacques de Larosiere, argued in the foreword that the Fund had taken an interest in the problem when "the aggregate impact of inefficiency

in the public enterprise sector as a whole or in a number of major producing units has resulted in budgetary deficits too large to be financed under conditions of monetary stability. In a number of countries the public enterprise deficit has been identified as a proximate cause of excessive credit creation, leading to monetary expansion, price inflation and ultimately to balance of payments pressures".[1] Jonathan Aylen confirms that the IMF has seen privatisation as one way of reducing public sector debt when negotiating debt rescheduling deals, especially in Latin America.[2]

However, the United States Agency for International Development (USAID) has taken a leading role in responding to this worldwide interest in privatisation. M Peter McPherson, the administrator of the USAID said that "we have made privatisation a significant component of our private enterprise initiative, whose goal is to build a favourable climate for free enterprise in the developing world. A significant financial and technological commitment has been made to help developing countries privatise their economies. USAID will continue to promote macroeconomic reforms that encourage growth based on market forces. We will continue to make privatisation a major

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(1) Floyd R . H. and others (1984), "Public Enterprise in Mixed Economies: Some Macro-economic Aspects", IMF, Washington DC, Page V.
(1) J Aylen (1987) "Privatisation in Developing Countries", Lloyds Bank Review, No. 163, January, p.16.

element of our policy dialogue with host country governments. The United States will continue to work with the international financial community to view privatisation as a worthwhile investment for future economic growth".[1]

An Anglo-US plan to help the developing countries in privatisation has been formulated in early 1989. David Rose asserts that the British government has embarked on a confidential programme with the United States to supply aid for the privatisation of public enterprises in the developing world. He stated that "sources in the Overseas Development Administration (ODA) have confirmed that instructions were sent to all British missions in the Third World at the end of last year, telling staff to "canvass the market". ... Similar instructions were sent to overseas outposts of USAID".[2] As part of the existing bilateral aid programme, once a particular enterprise has been identified and discussed with local governments, it was envisaged that the ODA could provide financial, technical and professional assistance. Mr George Foulkes, the Labour foreign affairs spokesman said that "he feared that privatisation might become a condition of developing countries receiving aid, a bit like blackmail - if you accept our ideology, you can get our aid".[3]

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(1) M Peter McPherson,(1987) "The Promise of Privatisation", in Steve H Hanke (ed) Privatisation and Development, San Francisco, California: International Center for International Growth, pp. 19-20.
(2) The Guardian, (1989) January 3, page 16.
(3) The Guardian, op. cit.

8.5 The Objectives of Privatisation

Privatisation can be seen as a response to the rapid growth of governments in the past two decades. The increase in the size of the state has become a great problem, especially for a certain group of economies for which there are not many sources of growth. However, the push for privatisation comes in different forms, in different parts of the world. In the developed countries it has come mainly through divestiture and through privatisation of ownership and sale of equity. In the socialist countries and the centrally planned economies, the push has come - to the extent that it has come at all - in the individualization of economic activity, while in the developing countries there is a mixture of approaches. Some cases have been accomplished in the fashion of the developed countries through the sale of equity, while in other cases reprivatisation is more common, particularly in Bangladesh and Chile.[1]

From reviewing the literature dealing with the economics of privatisation it can be inferred that it is difficult to find any comprehensive list of privatisation goals ranked by priority or weight. Indeed, objectives are likely to differ between government officials and to change over time as opportunities, constraints, and perceptions develop. However, the following list summarizes what

(1) Elliot Berg (1987), "The Role of Divestiture in Economic Growth", in Steve H Hanke (ed), op. cit. pp 23 - 31.

appear to have been the principal aims:

a) improving efficiency by increasing competition;

b) to raise revenue and reduce the public sector borrowing requirement (PSBR).

c) reducing government involvement in enterprise decision making.

d) widening share ownership of economic assets.

e) encouraging employee ownership in their enterprises.

f) restrict trade-unions activity and eliminate it where possible.

The order of these objectives is more or less chronological in terms of the emphasis they have been given in the government's thinking. In the early days the objectives of privatisation appeared to be purely financial and managerial. The original impetus for privatisation came from a desire to discipline the public enterprises by subjecting them to market forces. This in turn derived from a realisation that the administration methods of controlling and monitoring the performance of the public enterprises had largely failed and in its existing institutional form would continue to do so. What was missing was the fear of bankruptcy and the constant political interference by government officials in the management of public enterprises which had undermined their ability to operate effectively and efficiently.

It is argued that privatisation facilitates more efficient capital allocation and enhances economic

efficiency if it sharpens corporate incentives to cut costs and prices in line with costs. the introduction of market disciplines and the search for profitable opportunities also leads to the development of new products and services and pricess markets, which undermine existing monopoly position and, as a consequence, increase economic welfare.

On the other hand the reduction of the public sector borrowing requirement (PSBR) leads to a reduction of the public budget deficit in the short term by means of punctual income derived from the sale of publicly owned assets for the Treasury and, in the long term, from eliminating the burden of loans of re-privatized businesses. At the same time, the lower demand for funds from government stimulates the level of private sector investment as private industry is no longer crowded out of the market by government borrowing activity.

According to Graham Donelly (1987)[1], the PSBR is reduced through privatisation in a number of ways:

1. The operating deficits of loss-making public enterprises will be removed, or at least reduced:
2. The future borrowing of those bodies which are privatised will no longer figure as part of the PSBR, and
3. The receipt by the Exchequer of the proceeds of sale of public assets increases government revenue during

(1) Graham Donelly (1987), The Firm in Society, Pitman Publishing, London, Second edition, p.219.

the year in which the privatisation takes place and thus reduces the need for borrowing to meet a given level of expenditure.

By making every wage-earner a shareholder, Privatisation can be seen as an extremely cleverly constructed piece of ideological weaponry, in much the same vogue now as nationalisation was in earlier times. Most of the major privatisation flotations have encouraged participation by the general public, with the offer for sale favouring small investors, particularly managers and employees of the enterprise being privatised. It is argued that the employee participation in ownership which privatisation permits results in improvements in efficiency because of the obvious incentive effects.

One of the unstated justifications for privatisation is seen by governments as an opportunity for cutting the unions down to size and for reducing the average level of pay settlements. Another possibility is whether to rely on privatisation to alter the balance of power in industrial relations. The widely held view - especially by the unions concerned - is that privatisation alters the industrial relations climate significantly in favour of management.[1]

The other main arguments in favour of privatisation centre around the benefits likely to accrue to the whole

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(1) Peter Curwen (1986) Public Enterprise: A Modern Approach, Wheatsheaf Books Ltd.

economy from the reduction in the level of public sector activity in the direct provision of goods and services. Privatisation will also lead to less political interference in the policy-making of public enterprises concerned with sequential gains in economic efficiency and managerial performance since it enables managers to make their policy decisions without government hindrance and make them responsible for both the success and failures of their enterprise.

8.6 An Evaluation of the Privatisation Objectives

8.6.1 Privatisation, Competition and Efficiency

Competition is an extremely important ingredient in the privatisation argument. Beesley and Littlechild (1983) state that "Competition is the most important mechanism for maximising consumer benefits and for limiting monopoly power. Its essence is rivalry and freedom to enter a market. What counts is the existence of competitive threats, from potential, as well as existing competitors". (1) It is argued that efficiency can improve through opening up previously protected monopoly areas to competition. The introduction of market disciplines, the need to earn profit and the withdrawal of the dead-hand of government thus provide a spur to greater efficiency and responsiveness to the needs of consumers. But first, let us consider the meaning of efficiency and examine its

(1) Michael Beesley and Stephen Littlechild (1983), 'Privatisation: Principles, Problems and Priorities', Lloyds Bank Review, No. 149, July, p. 5.

various types.

Efficiency is one of the central concepts of economics, and the elaboration and refinement of the conditions for its achievement occopy much space in the professional journals of the discipline. The concept of efficiency is with great interest to engineers, policy makers, as well as economists. an engineer might define efficiency as the relation of works out to work in: for example, the ratio between electricity generated in a power station to the fuel used in that station. This notion of the relationship between the output of product and the input of resources is, of course, the common economic meaning of efficiency. Economic efficiency involves maximising output for a given output of resources or minimising input for a given output. The difference perhaps is that the engineering definition takes no explicit account of the cost of the equipment used to turn input into output, while the economic definition clearly includes capital among the inputs.

As it is widely known that in formal economic theory, there has been one general principle guiding definition of efficiency: a situation, organistion or plan may be described as efficient if it is impossible to have more of one thing without having less of something else. the two most important examples perhaps, have been in the definition of productive efficiency and pareto efficiency.

A production plan is efficient if it is impossible to produce more of good without producing less of another. the definition may be used in a number of ways. For example, let us consider the private sector and public sector separately and refer to efficiency of public production as distinct from aggregate production where public and private sectors are taken together. Where production takes place over time, the definition applies to net outputs in all periods. On this basis, for a growth path to be efficient, it must be impossible to consume more of some good in one period, without consuming less goods in the same period or other periods.

The notion of preto efficiency is presented within a normative framework which makes pareto efficiency a necessary, but not sufficient, condition for welfare optimality. The relevance of this notion for public policy depends on the acceptability of the value judgements underlying the normative framework, and whether there are means open to government manipulation through which allocation of resources can be guided, not to any pareto efficient configuration, but to just that one which is deemed to be the social optimum. Given this, pareto efficiency is defined as a situation where it is impossible to make one person better off without making anybody else worse off. However, better-off is usually defined in terms of individual preferences over goods or using a utility function. However, the definitio may be extended to the case of individuals existing at different points in time.

Where questions of distribution are also under discussion, in formal welfare or public economics one usually introduces a social welfare function $W(U^1, \ldots\ldots, U^H)$ which indicates social welfare as a function of individual utility levels U^H. The function is intended to embody the distributional values of the decision maker and we usually incorporate the concept of pareto efficiency by specifying that W should be an increasing function of each of the individual utility levels.

A broader but still formal definition specifies a state of affairs as efficient if it gives the minimum cost way of meeting some objective or similarly maximises an objective function in efficiency would be to meet an objective at lower cost or get more out of the same resources.

To sum up, it can be said that the connection between pareto efficiency and the market economy is very close. The "welfare analysis" of which pareto efficiency forms part, therefore, suggests a simple prescription for public policy - establish markets wherever possible - and also gives clear guidelines as to those occasions on which such a policy will not be optimal (where there are externalities or natural monopolies for example). The simplest notion of efficiency is that which is usually discussed in the theoretical literature in terms of achieving the conditions for pareto-optimality. In non-technical terms, "allocative efficiency" is concerned with decisions regarding the

production of the appropriate quantity/quality of the appropriate goods and services. In other words, allocative efficiency embraces price efficiency within firms as well as efficiency in the allocation of factors among firms, of goods among purchasers, and the marginal cost/marginal valuation relationship. With regard to telecommunications performance, allocative efficiency prescribes attention to the level of prices, the structure of prices and the quality of services provided.

Another guise in whcih efficiency has received a substantial amount of recent attention is that of "X-efficiency", a phrase coined by Leibenstein with the deliberate intention of directing discussion away from the orthodox notion of allocative efficiency. Leibenstein had noticed that firms in developing countries, using equipment similar to that in firms in developed countries, often used their resources far less efficiently. These firms are not on the production frontier, so to speak, but well inside it. It is not therefore a case of allocative inefficiency in the formal sense of being at a non-optimal point on the production frontier. It contradicts the implicit assumption in the normal theory of the firm that firms use resources as efficiently as possible.

The notion of X-inefficiency or of "absolute" inefficiency in the Leibenstein sense is clearly an important one. It is often associated with lack of effort on the part of the firm's executives, or with their lack of

ability. Poorly trained or poorly motivated labour may also play a part. Firms exhibiting this kind of inefficiency are unlikely to survive in a competitive world, although they might do so in a protected environment.

X-inefficiency clearly cannot be used as a blanket phrase to cover all cases where a firm does less well than its competitors. To be meaningful, it has to apply to a limited number of cases - perhaps those cases where either the management or the workers do not try to be efficient. X-inefficiency relates perhaps most aptly to motivation, therefore, and the poor performance that results from lack of motivation.

Finally, allocative efficiency and X-inefficiency often relate to what can be called "static efficiency" as contrasted with "dynamic efficiency". Static efficiency means efficiency in the use of resources in given circumstances. given the demand situation, given the cost situation (including potential known economies of scale), given the existence and circumstances of competitors, what decisions should the firm take in order to maximize its profits? Dynamic efficiency, on the other hand, relates to efficiency in changing circumstances, and therefore relates to the maintenance of efficiency over time. It has to take into account changes in technology as well as changes in the market and the competitive situation.

The above definition of efficiency which include both static and dynamic aspects seem to cover the most useful clear uses of the term.

Turn back to the arguments under review, it can be said that spurs to efficiency may come from both the product and the capital market and relate to both allocative efficiency and X-efficiency. Possibilities for improvements in allocative efficiency exist when it is impossible through a rearrangement of the final products to make one individual better off without making another worse off, while X-efficiency relates to the efficiency of internal organisational arrangements.

Critics of public enterprises argue that the proposed causes of inefficiency in such enterprises are mainly due to first, political interference, and second, to the way in which they have an inherent degree of protection from market forces which in turn leads to inefficiency, lack of innovation and a restriction of consumer choice. Finally, the common argument that, in practice, consumers are supplied with goods and services by public enterprises at less than their market value thus implies that the goods or services are being subsidised by taxes or government borrowing.

Privatisation is more likely to improve efficiency if there are competitive forces both in the product and in the capital market. However, some enterprises already face

considerable competition and x-efficiency gains seem likely to be small. In those public enterprises where monopoly power is significant, energy, telecommunications etc., mere transfer of ownership is unlikely, of itself, to stimulate competition.

The essential requirements for greater competition are the removal of a privileged monopoly position, and then the creation of a competitive environment, no matter whether this is in the public or the private sector, or a mixture of both. The transfer of ownership from the public to the private sector is not sufficient per se to provide a competitive environment. The monopoly power possessed by BT has passed almost unscathed from the public to the private sector - a situation repeated when other great natural monopolies like British Gas have been privatised.[1]

The scope for enhancing efficiency through privatisation is, therefore, limited by the extent to which markets can be made more competitive. There are three main factors that may constrain market competition:

1. Public enterprises often owe their existence to market failure, and this being so, the efficiency gains resulting from opening up a market to competition in a market dominated by a natural monopolist are restricted by the limited opportunities for new entrants, since the core activities of these enterprises tend to resist competitive pressures, and

(1) Curwen P. (1986), op. cit.

therefore a change in ownership through privatisation will involve no more than a change in the form of regulation or may even result in a monopoly position being more fully exploited.[1] Some privatisation forms, other than a sale of public assets (see the coming section), may create an environment of contestability.

We have mentioned, in general terms, about the notion of contestability but its real importance and its wider impact on economics can really be assessed when it is set in the context of established economic theory. The theory of contestable markets has drawn attention to the argument that, even when markets are characterized by a small number of enterprises, competition may be present, provided there is ease of entry and exit for potential customers. According to the theory, which has been developed by Baumol, Panzor and Willig (1982)[2] enterprises, however large and apparently powerful, are led to behave in a competitive fashion if this potential exists. Thus, it is tempting to argue that the sale of large public enterprises to the private sector need not be equated with the transference of a public monopoly into a private monopoly. But the argument is inappropriate. It is not ownership per se that ensures appropriate

(1) Hemming R, and A M Mansoor (1988), Privatisation and Public Enterprises, IMF, Washington DC.
(2) Baumol, W. Panzor, J. and Willig, R. (1982) Contestable Markets and the Theory of Industry Structure, Harcourt Brace, Jovanovich, New York.

responses, but the potential for competition. Such a case exists only in the absence of entry restricting barriers to exit. In other words, the degree to which costs have to be sunk becomes the key issue. It is the extent to which costs cannot be readily recouped on market exit which determines the strength of the monopoly power which can be exercised. These costs are not, however, synonymous with conventional ideas of fixed costs. Entry to a specific market for example, may involve the commitment of substantial capital, but this need not be sunk if it is easily transferable to other markets or a strong secondhand market exists for it. Such costs, therefore, do not deter rapid entry into and exit from the market if profit levels are potentially high.

2. Competition may not be appropriate, especially when enterprises cross-subsidize loss-making activities, a situation that often arises when enterprises have significant social and other non-commercial objectives and the private sector can engage only in profitable activities, and the public sector will then be left with loss-making activities, for which budgetary support will be required unless concessions are made in respect of social objectives.

3. The final factor that may limit competition is the difficulty of designing effective regulatory regimes. It has been pointed out by academics, that regulation, the substitution of rules made by government for the

competition of the market, is an essential component of effective competition policy. It is a highly inadequate mechanism. It can either involve setting the framework in which private enterprises operate, or it can mean detailed intervention in their affairs through the setting of their rates of return, or their tariffs or by decisions on which particular enterprises can enter a particular market, or what services may be offered.[1]

Most studies of regulation have shown how it is difficult to find a system which improves upon cost-plus policies and the US experience with regulation, provide us a wealth of lessons about the capture of regulating bodies by the industries they are supposed to regulate.[2]

The impact of competition policy and privatisation on the efficiency of privatised enterprises with dominant-positions in potentially contestable markets will depend upon how well the regulatory regime functions. The success of the current shift in the emphasis of industrial policy towards private competition depends largely on the effectiveness of regulation.

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(1) Hills J. (1986) Deregulating Telecoms: Competition and Control in the USA, Japan and Britain, Frances Printer London, p.28.
(2) Brittan, S. (1984), "The Politics and Economics of Privatisation", The Political Quarterly, Vol. 55, pp. 109 - 128.

8.6.2 Privatisation and Political Interference

It is argued that privatisation will reduce political intervention in economic decision-taking in the enterprises concerned. However, the utility industries will clearly play a key role in strategic aspects of the wider economy, and governments are likely to take an interest in their behaviour under any form of ownership. The special regulation of the privatised utilities is itself a form of government intervention in their operations. The different forms of ownership may lend themselves to different means of intervention and different objectives for that intervention.

The record of political interference in economic decision-taking of public enterprises is bad, and the fact that in many cases governments retain a controlling interest in privatised enterprises, implies that considerable scope for political interference, will remain, even after privatisation.

8.6.3 Privatisation and Wider Share Ownership

Most of the major privatisation flotations have encouraged participation by the general public with offers for sale favouring small investors, particularly managers and employees of the enterprise being privatised. Attempts to encourage the growth of small shareholdings have met with limited success despite special advantages offered.

If the pattern of shareholding in the privatised enterprises, for example, follows that in other major public enterprises, the majority of shares will eventually devolve into the hands of the great financial institutions such as pension funds, insurance companies,...etc.

While flotations are mainly designed to favour small investors, the British experience shows that most of those subscribing to the share issues quickly sell their holdings. The number of share holders in Amersham, for example, fell from 62,000 to 10,000 within one month of flotation, and within a year of flotation the number fell from 150,000 to 26,000 in Cable and Wireless (first tranche) and from 158,000 to 27,000 in British Aerospace.[1]

8.6.4 Privatisation and Public Sector Borrowing Requirement

The line of argument that has come under most scrutiny in the academic literature particularly is the assumption that privatisation in the form of the sale of public enterprises not only generates revenue from the sale itself, but also removes the future borrowing requirements of such entities from the public sector. The argument has great attraction for those who are looking for reducing the size of the public sector, so defined, especially if this is seen as an effort by the governments to reduce pressure on capital markets and interest rates in order to allow

(1) Yarrow, G. (1986) "Privatisation in Theory and Practice", Economic Policy, Vol. (2), April.

market forces to allocate investment capital more efficiently free of artificial government interference.

But, in relation to the health of the economy, the separation of the public sector debt from private sector debt is an artificial distinction in macro-economic terms because it does not really matter in which sector the debt accumulates, the important aspect being its total size and its structure and growth. A number of complications, in practice, arise,[1] combined with the serious problem of treating the Borrowing Requirement categories as corresponding to any principled definition of the public sector.

8.6.5 Privatisation and Economic Freedom

Underlying many of the arguments supporting the privatisation programme is a desire to enhance economic freedom and to effect a fundamental shift in the balance between public and private activity in the economy. The implication of this argument must be treated with great care. It is said by economists that the existence of public sector enterprises as monopoly suppliers of goods and services can reduce the economic freedom of consumers insofar as they would prefer such goods and services to be provided for in other ways but are prevented from bringing about desired changes and since public enterprises, as seen

(1) See, for example, Curwen P. (1986), op. cit. pp. 169-172.

by many, are bureaucratic, impersonal, and unresponsive to the needs of those it serves.

It is a fact that private, free markets often create organisations with monopoly power, and it is certainly debatable whether economic freedom is reduced more by public monopolies than private monopolies. Curwen (1986) argued that economic freedom can be enhanced without any necessity for privatisation to take place. He stated that "if, for example, it is accepted that a free market will only direct investment funds to organisations which are most deserving of their receipt because they produce the goods and services most desired by consumers, then allowing public enterprise to raise money in the open market would reflect consumer preferences far better than the present situation where the government allocates such funds to public enterprise in a rather arbitrary way".[1]

8.6.6 Concluding Comments

Finally, a change in ownership will affect the structure of property rights. The critical difference that lies at the heart of the privatisation debate is that in the privatised enterprise, there are tradable private property rights which means the ability to buy and sell ownership rights in the private enterprise which generates thereafter continuous pressures for productive efficiency.[2]

(1) Curwen P. (1986), op. cit. p.165
(2) Cento Veljanovski (1987), Selling the State Privatisation in Britain, Weidenfeld and Nicolson, London, p. 92

Some academics argue, however, that a national government, for example, may well place a higher value on the welfare of future generations than would a private enterprise. The nationalisation of oil reserves, for example, has thus tended to lead to their being exploited at a slower rate than was the case when the operating companies had exclusive rights on the reserves.

In brief, we may say that a closer examination of the justifications issue points out that there is no straightforward rationale to be found in the justification offered for privatisation, despite the apparent coherence of privatisation programmes. Privatisation, in terms of the sale of assets, is potentially harmful when unaccompanied by increased competition. However, empirical evidence to the extent that it is at all helpful, would suggest that whether output stems from either the private or the public sector, competition is the ingredient which reduces costs per unit.[1] Privatisation can only be recommended on a case-by-case appraisal.

8.7 Forms of Privatisation

Privatisation refers to ownership but it is a word which has come to be used to cover a range of different policy proposals. Hence, it is important to distinguish between the main forms of policy which have commonly been

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(1) Millward R and Parker D, "Public and Private Enterprise: Comparative Behaviour and Relative Efficiency", in Millward R et. al. (1983), op. cit.

attributed to privatisation. Besides the first form, which has already been discussed, the transfer of public ownership of assets to the private sector, we shall investigate the other two main forms, namely; franchising and contracting out and liberalisation/deregulation.

8.7.1 Franchising and Contracting Out

8.7.1.i. Franchising

Franchising was essentially conceived as a form of introducing competition in circumstances where market failure was believed to be highly probable, or where some measures of regulation was judged to be desirable. It involves conferring temporary rights in the supply or distribution of goods and services to a sole producer or operator for a specified period. The principle of franchising was first enunciated by Chadwick (1859), who suggested that if you cannot have competition with the monopoly, you have competition for the monopoly.[1] However, the principle was promoted as a serious alternative to regulation or nationalization by Demsetz (1968) who stressed that ex-post monopoly in the supply or distribution of goods or services is consistent with ex-ante competition for the right to be the sole supplier for a given period of time.[2]

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(1) Domberger S (1986), "Economic Regulation Through Franchise Contracts", in J Kay et. al. (eds) (1986) Privatisation and Regulation: The UK Experience, Clarandon Press, Oxford.

(2) Demsetz H (1968), "Why Regulate Utilities?", Journal of Law and Economics, 11, April, 55 - 66.

In Demsetz's style, competition is introduced through bidding for the franchise contract, and the winner is the contestant who bids the minimum supply price - that is the contractor who undertakes to supply the good or service at the lowest unit price. In the Chadwick-Demsetz auction, the operator's expected profit will reduce to the normal competitive level by inducing bid prices which are equal to unit costs of production.

An alternative award mechanism involves granting the contract to the producer bidding the highest capital sum for the franchise. The values of bids under this scheme, according to Domberger (1986) are "likely to reflect contestants expectations of the discounted stream of monopoly rents which accrue to the operator over the life of the contract."[1]

However, in addition to its presumed simplicity, the other main attractions of franchising lie in the fact that through competition for the field, it preserves the incentives for efficiency associated with profit maximisation, while nonetheless subjecting the search for profit to the price and service constraints of franchise contract. In this respect, franchising appears to be a cost-effective approach to the control of natural monopoly, notably in terms of the costs of administration and monitoring.

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(1) Domberger S (1986), op. cit. p.274

The advantages of franchising over traditional forms of regulation are two-fold. Firstly, franchising provides the regulator with information about the competitiveness of potential suppliers. Secondly, it provides a sanction on poor performance, namely the threat of losing the franchise, which in some cases is a more credible sanction than the threat of take-over faced by a regulated enterprise.[1]

In practice, however, franchising is not without difficulties which need to be considered briefly. The first of these is that franchising does not eliminate the need for some form of continuing regulatory review. A second difficulty concerns contract specifications. It is usually very difficult, if not impossible, to set out precisely the contractual conditions on which the monopoly is to be operated - notably the price and grade of service, since these will inevitably be affected by changes in input prices, technology and patterns of demand. A third potential difficulty concerns the contract duration. Identifying the optimal contract length can be difficult and yet may be crucial to the success of the franchise scheme. The final one is that bidding must be competitive. Cases of collusive bidding have been recorded in the past[2] and this clearly would be a cause for concern.

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(1) Domberger S (1986), op. cit. pp. 275 - 276.
(2) See Schmalensee, R (1979) The Control of Natural Monopolies, Lexington, MA, Lexington Books.

Beeton and his association (1988) add that "bidders may collude to share out franchises amongst themselves without competing over price. And the presence of sunk costs will deter new bidders anyway". They argue that "franchising shares with contracting-out the need to specify the level and quality, and indeed, the precise nature of the output involved. This means that franchising opportunities are most likely to arise where the service to be supplied can be defined with some precision. Where more than one output is expected, bids may be assessed either on the basis of the price of a key product (which can lead to obvious pricing distortions), or of a weighted average of all the product prices, where the government specifies the weights in advance". They assert that "while the latter criterion avoids price distortion, it will involve work and hence cost, to the government".[1]

8.7.1.ii Contracting Out

The term contracting-out describes the situation where one organisation, for example, contracts with another for the provision of a particular good or service. It is a common and growing phenomenon in the private sector. It is also equally common in the public sector, where public organisations contract out with a variety of organisations, most commonly with a private enterprise or individual or in some cases to voluntary or cooperative organisations, to

(1) Beeton D, Macrae G and Jackson P (1988) "New Ways of Providing Public Services", Privatisation Series No. 2, Public Finance Foundation, London, p.14.

supply products that they cannot or do not want to provide in-house.[1]

Contracting-out is a phenomenon that is growing for many reasons. It is generally agreed that the main ones are cost savings and lack of in-house expertise. Other reasons are the need to reduce overheads, greater administrative convenience, and the need for increased flexibility to respond to changes in market conditions. However, contracting-out covers a variety of types of arrangement, but the most common use is that where the government plays a financial and planning role yet does not produce the service itself. Road construction and building maintenance, for example, have been traditionally provided via such contractual arrangements.

The financial gains from contracting out are, as with franchising, likely to be greatest where there is most competition for the original contract. However, profit, as mentioned in the previous chapters, is a complex and curious motive. It gives enterprises an indirect incentive to do good work, - to keep the contract - and at the same time, gives them a direct incentive to do a job as quickly and as cheaply as possible - to cut costs and maximize profit - as a consequence there is scope for bribery and corruption in contracting and long term contracts tend to encourage monopolistic behaviour by the private supplier.

(1) Ascher K (1987), The Politics of Privatisation: Contracting Out Public Services, Macmillan Education, London, Chapter 1.

While franchising is common in utilities and urban transport, contracting is common in public works, defence and among specialized services. Grants and vouchers may be given to consumers to subsidize items such as food, health care, and education when these are offered by the private sector.[1]

A recent review of private approaches to public delivery published by the Urban Institute conclude that "Contracting has probably the most closely examined approach to privatisation. The amount of independent comprehensive evaluation of the effects of contracting, however, is quite small except for solid waste collection. Few trials of contracting, including the recent innovations, have been adequately evaluated to permit agencies nationally to learn under what conditions contracting works well".[2]

8.7.2 Liberalisation/Deregulation

Liberalisation or deregulation places a key role upon the sweeping away of entry restrictions into the market. It simply means the removal of restrictions on consumer choice and the introduction or extension of competition on the supply side of the market.[3] An enterprise which has

(1) Samuel P, (1985) "Privatisation and the Public Sector", Finance and Development, December.
(2) Hartry H P (1983) A Review of Private Approaches for Delivery of Public Services, The Urban Institute Press, Washington DC, p.24.
(3) Foreman-Peck, J and Manning D (1986), "Liberalisation as an Industrial Policy: The Case of Telecommunications Manufacturing", National Westminster Bank Quarterly Review, November.

previously been able to shelter itself from competition either because it has been successful in erecting barriers to entry, or because it has been given a statutory monopoly, is exposed to competitive forces through the government in effect changing the rules of the game. The government by doing so, hopes to make an enterprise behave much as it would have, had it been privatised, but without a transfer from the public to the private sector taking place.

The theory of contestable markets suggests that the removal of entry barriers will ensure socially desirable behaviour even in cases of natural monopoly - provided it can be shown that the monopoly is perfectly contestable.[1] The policy implication of this theory is that the sweeping away of artificial entry barriers is a more powerful instrument for restraining natural monopoly than regulation.

However, certain difficulties arise when liberalisation is put into effect. Economies of scale in an industry present particular difficulties for such a policy. Economies of scale may favour a dominant enterprise on the one hand, while on the other, a dominant firm would lack the same incentives to efficiency and to introduce new products as would competitors in a more balanced market. Certain activities - such as local telephone networks or electricity distribution - are most efficiently provided by a single supplier, and as a

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(1) Baumol W, (1982), etc. al. op. cit.

consequence, competition would involve wasteful duplication.

A second disadvantage arises from the fact that enterprises which are statutory monopolies or protected by statutory restrictions on entry are able to cross-subsidise unprofitable activities from profitable ones. When liberalisation is put into effect the new competitors will engage in the profitable services "cream-skimming", and leave the unprofitable ones to the former monopoly. Kay and Silberston (1984) argue that "the force of this argument depends on the rationale of cross-subsidisation. Should the unprofitable activities be undertaken at all, and if so, should they be financed by consumers of the profitable services? Reasons depend on particular cases, but may reflect no more than inertia. Telecom subsidises local calls from trunk calls not because anyone seriously argues that local calls are more socially useful than longer distance calls, but because the costs of trunk calls used to be relatively much greater than they are today and the tariff structure has only partially responded to these changes in technology".[1]

Liberalisation can operate in conjunction with the transfer of assets, providing a preliminary step on the route to privatisation. In this case, revenue receipts to the government following an asset sale are likely to be small if investors expect a liberalised enterprise's dominant position to be short lived. But where the

(1) Kay J A and Silberston Z A (1984), "The New Industrial Policy - Privatisation and Competition", Midland Bank Review, Spring, p.9

incumbent's dominance is expected to be longer lasting, revenue receipts could be substantial and perhaps not much smaller than where liberalisation is altogether absent.

8.8 Assessment of Privatisation Forms

Privatisation, as defined in this chapter, can take place through three main forms. Firstly, asset sales. Secondly, franchising and contracting out and finally, liberalisation and deregulation. Each of these forms of privatisation can be used separately or in combination with others. The best choice of instruments will depend on the industry under consideration and the objectives that the government is seeking to maximise.

Franchising is an appropriate mechanism for privatisation when the market is stable and measurable, such as railway stations, libraries, job centres, prisons, refuse collection, cable television, park restaurants, social services and so on. However, some governments around the world have franchise agreements with foreign operating companies to operate, maintain and manage their telecommunications system. Such agreements may cover only the international telephone and telex services, or may also include the national system. The franchise agreement usually involves the establishment of a new operating company which receives a licence to operate and maintain the telecommunications system on behalf of the government for a long time, typically, a 20 year period. The equity holdings in such an enterprise vary from case to case, but usually the majority of equity is held by the foreign

company. Revenues are usually divided according to the equity holding.

At first sight, the concept of a franchise agreement seems attractive. The organisational structure of the new company would be geared to commercial operation, the foreign partner would usually provide expatriate management personnel to fill key positions, and would also provide or secure capital to finance the development of the system. However, it should be recognised that whilst such an arrangement can lead to improvements in the service, there can also be disadvantages, namely:

a) the control of the new company is normally vested in foreign hands and may lead to limited long-term investment in the network;
b) the majority of profit is repatriated overseas;
c) there is little incentive for the franchise operator to develop local management and technical skills;
d) although franchises could be awarded to the highest bidder, this only transfers the proceeds of monopoly to the state, and does nothing to protect consumers and not a great deal to promote efficiency.

It is for these reasons that a number of governments are now reviewing their franchise agreements with a view to seeking fundamental improvements in existing arrangements.

However, it is possible that the privatisation of non-traded publicly produced goods and services will yield greater gains. The 'contracting-out' of such activities may offer considerable potential for cost-cutting. We

surmise this because the incentives to efficient operation in non-trading bureaucracies appear to be even weaker than in public trading enterprises. Contracting-out may be appropriate in road construction and building maintenance for example, but not in telecommunications, as experience suggests.

Therefore, I conclude that a franchise arrangement (and contracting-out) as described above, would not be in the best interests of Jordan, and hence will not give it further consideration.

Privatisation in the form of a transfer of ownership and control from the public to the private sector, with particular reference to asset sales, can in some circumstances be worthwhile, yielding improvements in the operating efficiency of the enterprise concern, following exposure to competitive product and capital market pressures, including the threats of takeover and bankruptcy. However, where a public enterprise operates in a highly protected or regulated environment, liberalisation of the market may generate a substantial improvement in public sector performance, without ownership transfer.

The provision of traditional telecommunication services has a significant social value, and making them available at reasonable cost to every possible user is a desirable policy goal in Jordan. In the context of telecommunications in Jordan, there are, however, two problems with a liberalisation policy of this type. The first relates to the "cream-skimming" argument mentioned

earlier. The TCC serves both potentially profitable and non-profitable services. The latter are operated on social grounds within the general framework of the Jordanian government policy mentioned above. If liberalisation were to take place then the private operator would move in on the profitable service, leaving the TCC to operate the less profitable and unprofitable services. If the TCC chose to abandon these services, considerable political opposition would be likely to emerge.

The other problem relates to the theory of contestable markets. Entry must be costlessly reversible, that is the entrant must be able to exit from the market at no cost when it is no longer profitable to stay. Thus, for entry to be free in this sense, there must be no "sunk-costs". According to Domberger and Piggott (1986), sunk-costs "are likely to be considerable, however, whenever the fixed assets required for the operation are sufficiently specialized to have no alternative use, or when there are no secondary markets where they may be realized."[1] Telecommunications is a prime example of an industry which is said to be heavy in "sunk-costs". Economies of scale and scope are also significant in this sector. In situations such as the one described above, privatisation in the form of asset sales and deregulation in the form of freeing the TCC from government regulations and rules remain the dominant options. Further considerations to these two forms will be given in the following chapter.

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(1) Domberger S and Piggott J, "Privatisation Policies and Public Enterprise: A Survey", The Economic record, Vol. 62, No. 177, June 1986, p.156.

CHAPTER 9

Assessment of the Feasibility of Privatisation Prospects

9.1 Introduction

The general consensus of economists is that in developing countries, privatisation moves would not achieve their objectives and might not even be feasible unless appropriate preparatory measures were initiated to create an economic climate and a policy environment conducive to the growth and progress of the private sector. For its part, the private sector would also have to prepare itself for the enlarged role and responsibilities that privatisation would lead to.

The above considerations are directly relevant to the situation in Jordan with respect to the possible privatisation of the TCC. The issues related to privatisation are many. Besides broad issues of economics, privatisation raises issues of motives, its stated objectives, capital market, politics, etc. In some ways, of course, the last of these issues is the most important since political factors will ultimately determine whether a venture in privatisation can be tried.

As far as the process of privatising the TCC is concerned, it is necessary therefore to start with its feasibility. Privatisation, particularly in developing

countries, is a new phenomenon, and the roster of successful transactions is short. Consequently, it is hardly surprising that no model has emerged to assist decision makers in the planning and implementation of privatisation policy. However, the previous chapters (3,4 and 7) provide us with a detailed technical review of the TCC operations. In this chapter, the fundamental objectives will be to provide an assessment of the feasibility of privatising the TCC, bearing in mind that an assessment of specific acts of privatisation depends heavily upon which particular sense of the word is involved and how such a step affects the achievement of the various policy objectives.

The levels of current and expected future profitability are central inputs to the feasibility of privatising any public enterprise. Profitability can affect the decision to invest in the concerned public enterprise in two ways:

(i) as a source of finance. The level of existing profitability not only helps to determine the amount of internal funds, but also influences the cost and amount of finance which external sources are willing to provide.

(ii) as an incentive. The level of expected profitability probably represents the principal incentive to invest.

The TCC has a long history of profitability (see Chapter 7) and as long as there is a growing demand for its services, its future prospects are encouraging.

The organisation of this chapter is as follows. The climate for privatisation in Jordan in general and the economic climate in particular are examined in section 2. The present situation will be presented in section 3. The privatisation strategy in Jordan will be investigated in section 4. Steps on the process are highlighted in section 5. The rationale for the arguments for privatising the TCC are examined in sections 6. while in section 7, the issue of privatisation and capital markets is presented. The UK experience in privatisation will be presented in section 8. The problems encountered by privatisation schemes in Jordan, and the effects of privatising the TCC will be examined in sections 9 and 10 respectively, while the final section is devoted to the conclusion.

9.2 The Economic Climate for Privatisation in Jordan

Privatisation in the form of transfer of ownership of enterprises which have been either wholly or partially owned by government entities to private sector ownership, implies that control of the operations of the newly privatised company will become vested in its owners and managers. Most privatisation projects, regardless of the country in which they are undertaken, are controversial. Proponents argue primarily that privatisation, and the

discipline of competing in open markets, lead to efficient operations, thereby creating profits for owners. These efficiencies include the divestiture of government bureaucracy with respect to people and mandates, in addition to improvements in the standard management practices.

Opponents to privatisation are, on the other hand, primarily concerned that power, through ownership, will be concentrated in the hands of a few, to the detriment of the many. They argue that private companies will raise prices unreasonably in order to provide a higher return for their owners. They are concerned that the drive for efficiency will mean a loss of jobs and believe that a private company will exploit markets when rents are high as well as avoid those where public need may be greatest (if rents are low).

These arguments, and many more, have been enunciated in Jordan with respect to the possible privatisation of the TCC. Therefore, an assessment of the prospects for the TCC's privatisation must be made within this controversial context.

While the economic climate has changed significantly in the past few years in favour of the private sector, the actual effect on day-to-day decisions has been less pronounced. A variety of factors can be cited as contributing to this, e.g. the sheer size of the public

sector in some economies, bureaucratic procedures, and the unwillingness of some regulators to relinquish many of their powers and privileges.

Since the early fifties, the Jordanian economy in all its ups and downs has remained basically grounded in private enterprise and the dominant role that the private sector plays in the economy. All trade and professions are private and businesses in services industry and agriculture are in private hands. This fundamental pro-private sector orientation finds regular expression and support in policy statements, plan documents and pronouncements by responsible officials at the highest level. Recently, His Majesty, the King, in his address to the General Development Conference, affirmed that industry, tourism, trade, agriculture, transport and other activities should, and would, remain in the hands of the private sector.[1] Nationalisation has never been one of the foundations of economic policy in Jordan.

Within this overall pro-private sector orientation and policies the government has not assumed a passive role. On the contrary, it has played a significantly supportive role through its participation with the private sector in the implementation of large economic projects, the provision of incentives to attract private capital to such activities and the creation and maintenance of a conducive investment

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(1) General Development Conference, 8 - 10 October 1986, Amman, Jordan

climate. In actual fact, the extent and diversity of the roles of the private and public sectors have fluctuated somewhat over the past four decades. These have been periods of considerable overlap between the two sectors and others which witnessed an over extension of the public sector. Such temporary and often minor changes in the domains of the private and public sector are usually the result of changes in exogenous factors and development needs rather than a reflection of deliberate policy shifts or changes in basic economic philosophies and beliefs. Examples of such extensions relate to increased public sector participation in productive investment in the mining and manufacturing sector in particular. Such participation was motivated by the need to establish a number of resource based industries which could not be undertaken by the private sector, either because of the substantial volume of required investment and the long-term nature of the benefits expected from them, or because of the high risks involved, or both. As a result of these activities, the public sector has acquired equity participation in a number of resource based industries such as phosphates (87%), potash (51%), cement (36%) and fertilizer (26%).

Such an arrangement worked very well for the Jordanian economy throughout the previous two decades and until the mid-eighties. The economy performed very well, registering remarkable rates of economic growth and impressive social development. Gross domestic product in Jordan grew at a real rate of over 8% on average during the period 1973 -

1983. Accordingly, Jordan ranked fourth in the world in terms of rates of growth superseded only by Korea, Hong Kong and Singapore[1]. A parallel growth took place in the social services as health and education parameters witnessed significant improvement. This performance, economic and social, was made possible by private investments in their traditional domain of industry, agriculture, commerce and business services, and by extensive public expenditures on infrastructure and social services.

In the mid-eighties, the Jordanian economy started to witness new trends which were mainly affected by the slowdown in the economies of neighboring Arab-countries, particularly oil-producing countries, which suffered from the drop in their revenues as a result of the drop in the price of oil. This affected the Jordanian economy, mainly through three avenues. The first was the drop in the demand of these countries for Jordanian agricultural and manufactured products. Exports to these countries from Jordanian agricultural and manufactured products dropped from JD 58,183,000 in 1984, to JD 48,196,000 in 1986 or by little over 20%.[2] The second was the decline in their absorption of Jordanian labourers and hence the levelling off of the remittances that Jordanians working abroad sent back to Jordan. Workers' remittances drop from JD 475

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(1) Khalaf, R. M. (1988), "Country Paper: Privatisation - Jordan". Inter-regional Workshop on Privatisation. Templeton College, Oxford.
(2) Central Bank of Jordan (1987), op. cit. p.54

million in 1984 to around JD 389 million in 1987 or by 22%[1].

The third impact of the slowdown in Arab-oil producing countries on Jordan was a noticeable drop in official transfers from those countries to the Jordanian government which amount to $1.2 billion in the early eighties (1981, 1982), but which dropped to only around $600 million in 1986.

Such an unfavourable external environment affected not only the rates of economic growth which dropped from over 8% in average in the early eighties to around 3% in the second half of the 1980s,[2] but also numerous other economic and social indicators. Unemployment, for example, increased from 3% in 1980 to a present rate of around 8%[3] and prospects for its reduction are not promising as the return of Jordanians working abroad is becoming more imminent. Private investment also suffered as profitable opportunities diminished due to the slowdown in domestic economic activity and that of neighboring countries. Gross fixed capital formation by the private sector actually dropped by over 20% during the years 1987/88.[4] This aggravated the deteriorating economic condition and did not help much in alleviating rising unemployment. Furthermore, the government's budget situation became less sustainable

(1) Central Bank of Jordan "Twenty Fifth Annual Report", (1988), Department of Research and Studies.
(2) Central Bank of Jordan (1988), op. cit.
(3) The Civil Service Commission, Annual Report (1988).
(4) Khalaf, R. M. (1988), op. cit.

with the decline in Arab budget support.

To address the emerging economic problems, the government, in its current Five Year Plan (1986-1990) for economic and social development defined a list of objectives of its economic policies.[1] The basic strategy necessary to achieve many of these objectives was perceived by the government to be the revitalization the private sector. Political trends worldwide have in recent years also favoured more liberal markets, more open economies and more emphasis on the private sector as the principal engine for sound economic and social development. As a consequence, calls for privatisation have become more compelling from late 1985 as many began to feel that it was high time to straighten the record in favour of the private sector.

A first step towards formulating such strategy was taken by the Council of Ministers in 1986, through the formulation of a ministerial committee which was entrusted with the task of increasing the efficiency of public enterprises and also increasing the role of the private sector in the economy. Part of its mandate was also to evaluate various privatisation proposals. Privatisation studies have been in progress with regard to some public enterprises including TCC, the Public Transport Corporation and the Royal Jordanian Airlines.

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(1) For more details see "Five Year Plan for Economic and Social Development: 1986 - 1990). Ministry of Planning, Chapter two, pp. 75 - 116.

In addition, stimulation of private investment has been an important ingredient of Jordanian economic policy. To keep the effectiveness of such policy under close scrutiny and ensure that it benefits from appropriate feedback from the private sector itself, mechanisms have been adopted to secure active private sector participation, be that at the planning level or economic policy formulation level.

9.3 The Present Situation

As indicated earlier, the Jordanian government has always faced severe budgetary and financial constraints. However, Jordan has managed to maintain a healthy balance of payments position (inspite of the severe imbalance on the trade account), accumulate sizeable foreign exchange reserves and to maintain a stable, and sometimes rising and convertible currency (the JD) with a very little exchange regulation. All these factors have allowed an almost free play for the private sector in investment and consumption activities.

From the end of 1988, the position of the foreign sector in the Jordanian economy started to show substantial strain with the fall off in Jordanian worker's remittances, the fall in the Arab financial aid and the ever increasing consumption demand generated during the boom years of the late seventies and early eighties, coupled with increasing foreign debt. For the first time in many years, Jordan

faced a balance of payments problem. The government reaction was as drastic as it was quick. A complete import ban on certain commodities was imposed, customs duties on a number of consumer and non-essential goods were increased and certain fees and charges were also increased. In addition, the value of the Jordanian Dinar was allowed to float downwards and access to foreign exchange became limited after the withdrawal of licenses of money changers and their offices were closed. The commercial banks do not have sufficient access to foreign currencies. Although no published figures exist, inflation is reported to be on the rise.

While economic crises do happen all over the world, it is felt that the way the current crisis of Jordan is managed may have profound effects on the future of the private sector. The government in its attempts to deal with the current situation is trying as much as possible to restrain consumption, particularly conspicuous consumption of a wide variety of imported luxury items with little resort to import bans or quantitative restrictions and maximum use of tariff policy. Stability of the foreign exchange situation, particularly ensuring availablity of such resources for investment purposes, is on the top of the economic agenda of government. Inflation is yet another danger, and the government through the economic package is trying to minimize its effects.

9.4 The Privatisation Strategy

Given the current economic situation in Jordan, the privatisation strategy has two major interrelated components. the first is to promote private investment in the traditional domain of the private sector. The second is to expand the domain of the private sector by privatising a number of public enterprises.

9.4.1 The First Component

With regard to the first component, private investment is currently diminishing in the traditional domain of the private sectors such as agriculture, manufacturing, commerce and business services. The general economic slowdown is the main reason. Another important one is the government's indirect intervention in those sectors in the form of regulation.

In the agricultural sector, the government applied a cropping pattern to deal with excess supply of certain products. This policy, which was considered to be a temporary solution to problems of excess supply, has resulted in less efficient utilization of resources. Another policy which suppressed additional investments in the sector is that of price controls. This policy worked as a disincentive for farmers to improve the quality of their product and has limited access to foreign markets and further aggravated the domestic problem. The privatisation

strategy for this sector started to emphasize free market incentives and move away from supply control and price regulation. A vast amount of effort has gone into studies which addressed marketing constraints and systematic and policy constraints which hamper the increase of private investment in this sector. Although the policy framework and regulations are still effective, the government is working on creating a substitute to make the removal of such regulations possible.

Work has started on the establishment of the Market Information Centre which will provide farmers with timely information on sizes, and needs of domestic markets and potential export markets. Half of the public investment in agriculture in the current 5 Year Plan is designed to increase productivity and protect the resource base to make private investment profitable. The plan also includes a long term research and extension strategy. A new project was started, the National Centre for Agricultural Research and Technology Transfer (NCARTT), by transferring the agricultural research and extension services from the Ministry of Agriculture to this Centre. It is hoped that such interventions will promote private investment in this sector and in the medium term, allow a greater role for free market incentives.

A similar deregulation strategy is currently being worked out for the manufacturing sector. Although the government does not participate directly in the production

of manufactured products, the sector is to some extent, regulated by government policies. All manufacturing projects, for example, need to be licensed by the Ministry of Industry and Trade. Some projects which are in line with the development strategy of the Country can receive generous incentives in the form of tax exemptions and exemptions from custom duties. But in order to receive such incentives, those projects need to go through along government procedures. The prices of certain industries products, which are granted protection from foreign competition through import prohibitions, are set by the government. Other industries receive protection from the government whereby no similar project is awarded a license for a specified number of years.

Such regulations and procedures are now considered to be a serious obstacle facing the private sector investment in manufacturing. Although the government owns equity in a number of companies, this was not perceived to be the problem as government participation, in most cases, came to supplement rather than replace private investment. Accordingly, the application of privatisation policies in the manufacturing sector emphasized deregulation and reducing controls rather than selling out the shares of the public sector in manufacturing enterprises.

However, the government is still in the very early stage of deregulating the manufacturing sector. So far, extensive studies have been conducted on the investment

environment, the licensing system and procedures for establishing businesses in Jordan. Several recommendations came out of these studies and these recommendations are currently being discussed by the Council of Ministers. Further studies on import and export procedures and on the tariff system were recently started. Results and specific recommendations are expected to be out in a few months.

To sum up, the government is trying to increase the role of the private sector by a favourable environment. It is keen on minimizing distortions in factor markets and product markets. Efforts are also directed towards developing its legal environment to further protect property rights including patents and to upgrade the commercial law. In this line, a new company's law (commercial law) has been drafted and is currently being discussed among concerned parties. Moreover, an economic Consultation Council was formed. It is chaired by the Prime Minister and includes in its membership the three ministers concerned with economic affairs (Minister of Finance, Minister of Planning and Minister of Industry and Trade), the governor of the Central Bank and other six representatives of the private sector representing the various interest groups. The Council Coordinates financial, economic and monetary policies and advises the Council of Ministers on economic matters.

9.4.2. The Second Component

The second component of the privatisation strategy in Jordan is to expand the domain of the private sector by privatising a number of public enterprises. Privatisation here means a transfer of ownership and control from the public to the private sector, with particular reference to asset sales. Although the main motivation for privatisation in many countries is likely to be political, in this section we will concentrate on the economic arguments which support or oppose such policy. The government's justifications for privatisation stress the objective to increase efficiency through freeing the privatised public enterprises from the constraints imposed by government regulations or other means. Another justification cited by the government to raise finance which can be used to fund other expenditure priorities, or fund the borrowing requirement and thereafter reduce the PSBR.

Some of the public enterprises in Jordan are accused of inefficiency since they have been incurring losses due to their adherence to the rigid rules and regulations, and salary structure of the Civil Service, or due to inefficient management or both. This means that implicitly efficiency is being equated with financial performance, as if this were the only goal of the public enterprises, while in reality, public enterprises deficit, in several cases, have been the result of severe goal conflicts and not

necessarily a reflection of inefficiency in raising surpluses. The government believes that freeing them from such rules is expected to improve their managerial efficiency and commercial performance. It also allows government to reduce its deficit by ending the costly subsidies it pays to keep them running. Accountability to shareholders is also expected to improve their efficiency.

Accordingly, since the end of 1985, the Jordanian government began a serious attempt towards privatising some public enterprises. A number of institutions were initially considered for privatisation and actions were taken concerning three of them; the Telecommunication Corporation, the Public Transport Corporation and the Royal Jordanian Airlines.

9.5 Steps on the Process

The Telecommunication Corporation was one of the first enterprises to be targeted for privatisation. The selection of the first enterprise (or enterprises) for privatisation through sale is very important as its success or failure will influence the future of the whole privatisation programme. When France's new Conservative government debated during the summer of 1986 what to privatize first, Saint-Gobain, a state-owned glass and special materials group was an obvious choice. Solid and well-managed, it seemed the most likely to appeal to the

French stock market that had become rather cautious.[1] On this basis, in choosing the TCC as the first phase of a privatisation programme, it can be said that the government was looking to enhance market confidence, to demonstrate the government's commitment and to build momentum in the public arena for privatisation. This might be considered a further indication of how well the TCC performed.

Although the TCC has been a well-managed organisation and has been profitable in the past few years (see Chapters 3, 4 and 7), it has suffered from serious administrative and financial constraints as a result of adhering to the Civil Service regulations and payment scale (see Chapter 3). However, as far as the privatisation strategy is concerned, the government is considering the process of changing the TCC status from an autonomous public enterprise to a shareholding company owned by the government. This was perceived to be a first step towards selling shares to the private sector at a later date.

Officials concerned with privatising TCC are aware of the fact that there has to be a transitional period before the complete privatisation of the TCC. Thus, intensive preparational efforts concentrated on accounting, finance, legal affairs, administration, computerization and modernization have been made.

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(1) The Economist, (1986), November 1, p.73

With regard to the legal set up, the TCC is preparing the necessary legal amendments needed for transferring the public-owned corporation into a shareholding company. Also, the TCC has already started using a commercial accounting system for the first time, similar to that adopted by private sector companies. The Corporation prepared a comprehensive plan to computerize all its activities which include financial and accounting systems, administration and technical services and standardization. In brief, officials at the TCC and the others concerned with privatising TCC are working hard and at full thrust to accomplish the first step.

9.6 The Rationale for the Arguments

The first argument which is most often used to justify privatisation policy, anywhere, is that privatisation increases efficiency. The rationale of this argument, in this respect, is that the expected increase in the TCC managerial efficiency leads to some improvement in the efficiency (in its broader sense) of the whole economy.

Officials concerned with privatising the TCC believe that managerial efficiency will be improved by privatisation as the aim of a private enterprise is to maximize profit and produce the most desirable product at the least possible cost. Shareholders will force such profit maximization behaviour because managerial inefficiency reduces the return they get on capital.

Another component is the need to raise finance in the private capital markets which acts as a further incentive to efficient production.

Managers of large enterprises will often have other objectives than maximising profit, because the return they receive is not usually directly related to profit but rather to overall size. Moreover, they may want other things than money, such as prestige and an easy life, particularly if marginal tax rates are high. In such circumstances, profits can only be maximized if there is some way of forcing managers to act efficiently. For example, if the product market is competitive, then enterprises that do not minimize costs will be forced out of business. Even the threat of potential entry can force efficiency in this way, especially if there is a real threat of entry which can shrink TCC's profits and force bankruptcy if the TCC does not minimize costs. However, there is little likelihood of this in any reasonable time horizon and no clear evidence of such erosion in other countries. Moreover, even if profit maximization is the overriding objective for management in monopoly enterprises, this objective may still be of little significance in encouraging efficiency since the monopoly enterprise can increase profit simply by raising prices. In this case, a private monopoly may be just as inefficient as a public monopoly.

It is also argued that privatisation will lead to an

improvement in the accountability of the TCC management to its owners (shareholders), and that their pressure will force managers to act efficiently. It is unlikely that shareholder pressure will contribute to the TCC's accountability and efficiency because they can only do so if firstly, they have adequate information to find out what is really going on (and so form a judgement of what is, or is not, a reasonable level of performance). The possibility to do so is higher within public enterprises where it is at least subject to more regular efficiency audits than a privatised company which could resist such information and evaluation. Secondly, if they then have the power to force the management to change their behaviour or the power to replace them.

The British experience of privatisation has shown that the proportion of private individuals among the shareholders decreases dramatically after a short time (see sub-section 8.6.3). Given this, the influence of the small shareholders will be very small unless the institutional investors manage to co-ordinate their holdings and exert joint pressure which thereafter could lead to a significant chance of effective pressure coming from private shareholders.

However, the Jordanian institutional investors are characteristically unwilling to intervene in the affairs of the companies in which they invest. They prefer instead to sell off their shares when circumstances change for the

worse.[1] Moreover, enterprises with substantial shareholdings might have very different objectives from those of the shareholders. For example, they may be more interested in a large expansion programme than in cost minimization. Therefore the constraints on management behaviour arising from shareholders are likely to pull in many different directions rather than simply concentrate on efficiency. This strengthens the effective control by the government which, in the longer term, is also likely to find itself attempting to meet many other objectives.

Related to this point is that sales of public enterprises can be structured so as to encourage wider share ownership. Thus, flotations in many countries, have been designed to favour small investors. In practice, most of those subscribing to the share issues (particularly individual investors) have quickly sold their holdings since they have typically regarded floatations as an opportunity to make a quick killing rather than as a chance to acquire a longer term asset. Again, the British experience provides a good example.

A further point is that by transferring TCC from the public to the private sector, there may be some difficulties facing the TCC plc when trying to raise funds from the capital market, simply because the capital market may find it a difficult proposition to assess and because

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(1) Amman Financial Market (1988), Annual Report No, 11.

the risks to be borne are likely to stem more from the uncertainties attached to the regulatory regime than to the skills of the TCC management. As a consequence, the price of borrowing "in the case of the TCC plc" may well be higher because of these risks and may be perceived as larger (and other risks discussed later) than in the case of the TCC as a public enterprise where all its borrowing requirements are backed by the government guarantee.

Concerning the threat of takeover, which might act as a further incentive to improve efficiency, given the relative size of the TCC in comparison to other industries (since the TCC is the only enterprise dealing with the telecommunication in Jordan), it seems that none of the Jordanian companies would be large enough to do so. Furthermore it is improbable that the Jordanian government would allow foreign ownership of TCC.

We turn now to the issue of the relative cost of public and private funding. It is well known that government can borrow at a risk-free rate of interest (i.e. free of commercial risk) while other borrowers must pay more, even where there is little or no risk of default. By transferring the TCC from the public to the private sector, the rate of interest it will have to pay will increase, however secure TCC plc's profits appear to be. Moreover, if competition, for example, became so extreme as to narrow TCC's field of investment, then the interest costs would be further increased as TCC plc's investments would be subject

to higher risk than when borrowing is for more diverse purposes. Given this, the cost of capital to TCC plc may rise as a result of privatisation for reasons that are to do with the shift from public to private ownership, not with any underlying change in the value or riskiness of the operation.

Privatisation strategy in Jordan has been mentioned in the context of general measures intended to secure a reduction in the government or public sector deficit. In government accounts, the proceeds from asset sales to the private sector are treated as either capital revenue (as in the case when the government sells fixed assets previously held for its own use, land for example) or a loan repayment (as in the case when the government sells part or all of its equity in a public enterprise).[1] In the government accounting sense, the fiscal impact of an asset sale is the reduction in the overall deficit (the difference between government expenditure and government revenue), by an amount equal to the sale proceeds, if there are no other budgetary changes.

Privatisation has nothing to do with the Balance of Payments because when assets are sold from the public to the private sector, it simply means, in this context, exchanged assets between the two sectors and this alone cannot directly influence economic activity. Thus,

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(1) Hemming, R. and A. M. Mansoor (1988), op. cit. p.16

privatising the TCC will not help in solving the Balance of Payments problem facing Jordan at present.

Some governments suffer from a lack of foreign exchange, and a sale of public enterprises to private foreign investors can provide a possible solution. Since the end of 1988, Jordan started to suffer from a lack of foreign exchange and it might be argued that such a marketing policy may help in sustaining the position of the foreign sector in Jordan. However, officials responsible for privatising the TCC point out that it is improbable that the Jordanian government would allow foreign ownership where this is seen as leading toward loss of control over one of the commanding heights of the economy. Thus, fund raising from selling the TCC assets will be in the local currency (Jordanian Dinar), which will not help in solving the problem of a lack of foreign exchange but might help in reducing the budget deficit in the short-run. This can, therefore, be considered as an alternative to raising taxes or incurring further debt.

The impact of selling public assets from a budgetary viewpoint in the short run may drastically reduce the public budget deficit for one or several years. It then allows the financing of a punctual tax cut programme or else the easing of an intricate financial position. However, in the long run, the budgetary impact of privatisation is still more limited. Annual income may be reckoned as a profit related to a cut of national debt,

i.e. to the ratio between the long term interest rate of public funds and the earnings from the sale of public assets. But such an income is not clear. Public assets sold this way will first be profitable or likely to be, which means that future earnings will thus elude the public sector. This has been very accurate in the case of oil assets, telecommunications or social housing.[1]

9.7 Privatisation and Capital Market

Because no equity yet exists we cannot directly compare the proposed to the existing situation. But there are several reasons for arguing that it will not be a cheap form of finance. To illustrate more, privatisation usually requires two phases of financing: the first to support the transfer of ownership, and the second, to ensure the continued operation of the privatised enterprise.

Many internal and external factors affect the forms of privatisation and thus its financing. The first of these is the overall quality and size of the enterprise. Another factor is the availability of a well organised and efficient financial market. The experience of other countries suggests that the goals of privatisation can be significantly facilitated by an efficient financial market,

(1) Jean-Francois Escarmelle and Luc Hujoel (1986), 'Privatisation and Deregulation: its implementation in Belgium', Annals of Public and Cooperative Economy, Vol. 57, Part 2.

which means that without a strong and efficient domestic financial market, privatisation of ownership, let alone of control and management, is difficult to achieve and the ultimate goals - enhancing economic efficiency and social well-being - are impractical targets. It follows that the size of the equity market is an agreed proxy for the degree of private ownership and control.

For most developing countries, the equity market is small by any measure and this compounds inefficiency. An IMF view on privatisation in developing countries declared that "... the thinness of domestic capital markets necessarily places limits on the ability to finance privatisation from domestic resources".[1] According to this widely held view, it is extremely difficult to raise sufficient amounts of equity capital in the absences of a well-established stock market.

The Amman Financial Market (AFM), in its eleventh year, has around 120 listed stock companies.[2] It is open for trading five days a week for one and a half hours per morning session and one hour twice a week for the afternoon session. Stock trading was heavily concentrated in nearly one third of the listed stock companies and dominated by a few large institutions (e.g. banking and industrial companies). According to the International Finance

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(1) Hemming, R. and A. M. Mansoor (1988), op. cit. p.10.
(2) Amman Financial Market (1988), op. cit.

Corporation (IFC) table, the Amman financial market is one of the lowest active stock markets in the developing countries (as shown in Table 9.1).

Investors will predict a reasonable return on their investments, but their expectations will be coloured by the regulatory regime and thereafter, by the possibility of a change in its mode of operation in a way that will not benefit them. That could happen as a result of a change of government as users exert effective political pressure to limit profits (as American examples indicate). Thus, the cost of capital to TCC is likely to be considerably higher in the private sector because of the imperfection of the capital market, the impact of regulation and because of privatisation itself. The change of ownership with a style of regulation untried in Jordan will generate uncertainty that has nothing to do with the telecommunications market itself. As a result, investment may be held back by the cost of capital rather than a lack of its availability. In terms of financing, the benefits of privatisation lie almost entirely in breaking a constraint imposed by the government, which could be removed by the government and yet still remain under public sector control. Freeing the TCC from the rigid rules and regulation, for example, would give it the flexibility to respond to market forces.

L-Gray (1987) states that "...privatisation in the developing world has been hampered by the lack of capital markets, especially legal ones, and by severely limited

TABLE 9.1

Activity Traded LDC Stocks with Market Capitalizations in Excess of US$50 Million (Year-end 1985)

Country	No.
Brazil[1]	160
Balaysia	51
Taiwan[2]	30
India	30
Mexico	25
Korea	22
Nigeria[2]	11
Argentina	9
Thailand	8
Philippines[2]	6
Chile	5
Pakistan[2]	2
Jordan	2
Colombia	1
Zimbabwe	1
	363

(1) June 1986 data
(2) January 1986 dataSources: IFC's Emerging Markets Data Base, and stock exchanges' reports. Quoted from David Gill (1987) "Privatization and Internationalization of Securities Markets - opportunities for financial market development", Washington DC. The International Finance Corporation.

credit facilities available to the private sector". He concluded that " privatisation cannot take place unless there is enough capital in private hands to provide potential buyers for state divestiture".[1] Thus, it can be said that privatisation through existing stock markets is limited by the absence of a well-developed financial market, and by the absence of a tradition of popular investment in common shares, as well as by a shortage of investment capital, caused by the drop in worker's remittances and in the Arab financial aid to the Jordanian government, as well as by high inflation with its resultant negative effect on the accumulation of domestic savings. The chances of selling an organisation as large as TCC, where a few hundred million JD might be needed from investors in a small stock market that has never before managed to do so, is therefore very small.

Finally, it can be said that the level of development of the capital markets in a country will determine whether or not privatisation policy can be applied. The specific methods needs to be suitable to the structure and liquidity of the capital markets and the sophistication of local investors. If there are no channels for share distribution, for example, and if the investing public is small in size, a traditional public offering of shares is often not feasible.

L-Gray Cowan "A Global Overview of Privatisation" in Steve H. Hanke (ed.) (1987), op. cit. p.11.

9.8 The UK Experience

This section examines the British experience of privatisation and whether or not it is transferable to Jordan. It gives a clear picture of the origins and driving force behind the UK privatisation programme, its impact and the claimed advantages and criticisms of the programme.

There is much to be learned from the experience of other countries who have adopted privatisation policies, particularly the pioneer of this policy area. The British privatisation programme is regarded as "one of the sustained and consistent single-minded pursuits of public policy in modern times".[1] The UK privatisation programme appears to have included a mixture of factors that could be considered as comprising the origins and driving force behind the programme. They include the ideology of the 'new right' and an attempt to change people's voting habits and convert them into capitalists. The programme includes the desire to curb trade union power and question the very basis of trade unionism. It also includes the desire to shrink the share of the economy occupied by the public sector and, therefore, to reduce the PSBR.

The personal belief and persistence of the Prime Minister, Margaret Thatcher, in this policy area is also considered one of the main factors.

(1) K Wiltshire (1987), Privatisation: The British Experience, Longman Cheshire Pty Ltd. Melbourne, Australia, p.104.

The goals of the UK privatisation programme, like anywhere, have included an increase in efficiency and competition, a free play of market forces in the economy to achieve consumer benefits and more efficient resource allocation. It also includes the improvement of managerial efficiency, the development of wider share ownership to encourage popular capitalism. Furthermore, a desire to raise revenue from assets sale and greater accountability of enterprises to the public. Steve Hanke (1987) concluded that, "...the British experience exemplifies how privatisation can be used to generate political as well as economic benefits. Mrs Thatcher has learned that the actual sale of assets and shares presents an enormous (and one would think obvious) opportunity to build a constituency of political support, especially for future privatisation".[1]

Privatisation cannot be sustained unless the political leadership is committed to it, and unless it reflects a shift in the preferences of the public arising out of dissatisfaction with the performance of other alternatives.

Privatisation, in the UK style, seems to be difficult to apply elsewhere, particularly in developing countries, because of different motives, different circumstances and different degrees of political commitment. A case in point is Jordan which is a constitutional monarchy, although the

(1) Steve H Hanke "Towards a People's Capitalism" in Steve H Hanke (ed) (1987) op. cit. p.214.

King's political powers remain supreme. Under the existing constitutional arrangements, the King, as the Head of State, approves laws and promulgates them. He also orders the holding of elections,[1] convenes, adjourns and prorogues the House of Representatives (House of Deputies), and appoints the Prime Minister, president of the House of Notables (the Sanate) as well as the Senators.

The former Prime Minister, Mr Zaid al Rifai, was the main supporter of privatisation policies in Jordan. But even during his four years in power, from 1985 to 1989, nothing seriously has been done concerning the application of privatisation, except a decision by the Council of Ministers to privatise the public transport corporation. However, no practical steps have yet been taken to translate that decision into reality.

The successor of the former Prime Minister, Mr Zaid Ben Shaker (from May to November 1989), and Mr Mudar Badran, have shown no signs of supporting such policies. The manifesto of Mr Badran's government shows no sign of adopting a privatisation programme. In his first speach to the Parliament[2] Mr Badran (the current Prime Minister) affirmed that his government's economic policy was based on the philosophy of promoting private investment and maintaining a strong private sector because of its

(1) A first parliamentary election in more than 22 years took place on November 8th, 1989.

(2) 23rd December, 1989.

significant role in development. Strategic economic policies for his government will seek to combine maximisation of the productive potential of Jordan's natural resources (further development of the phosphate sector and intensification of oil exploration), with encouragement from private investment in the traditional domain of the private sector (agriculture, manufacturing, commerce and business services). These strategic policies represent the first component of the privatisation strategy of Mr Rifai's government but again, there is no clear sign of the second (interrelated) component of the privatisation strategy , (i.e. to expand the domain of the private sector by privatising a number of public enterprises).

There are no political parties in Jordan. They remain illegal by law. Adopting any ideology or policy from the government, therefore, will not aim to change people's voting habits simply because the Prime Minister comes to power through the King rather than through political parties or increased popularity among the electorate. Ministers are also appointed by the King, based upon the recommendation of the Prime Minister. Moreover, all the actions taken and policies followed by the government should be explained to the two Houses of Parliament. To seek approval for government - introduced draft legislation the government should obtain the absolute majority of votes of the two Houses of Parliament. Because of the absence of political parties, the MPs vote on an individual basis, not on a party basis. Furthermore, there are no trades unions

to smash in the public sector in Jordan since they also remain illegal.

On the implementation side, the UK experience shows that even in an advanced and well developed financial environment, when shares, for example, are routinely traded in large volumes and high quality advice can be readily obtained, it is still difficult to establish the market value of an enterprise before its sale and, as a consequence, undervaluation of assets can be costly. For example, part of Sealink's operation was sold after privatisation for nearly double the price paid to the government when it was privatised. Similar under-valuation also occurred in the case of Ford when it was sold.

In developing countries, valuation problems are compounded. In many cases, neither the capital market nor the private sector of the economy is sufficiently developed to yield even an approximate valuation. International markets could help in this respect, but the restrictions that are often placed on the involvement of foreigners and non-resident nationals limit this possibility. Even where a market value can be established, the thinness of domestic capital markets necessarily places limits on the ability to finance privatisation from domestic resources.

As discussed earlier, to widen the ownership of shares has been one of the objectives of privatisation in the UK. In this respect, the UK privatisation programme has been

relatively unsuccessful since a number of enterprises (such as Sealink, British Rail Hotels) were sold to other companies and therefore made no direct contribution to wider ownership of shares, while in other cases, most of these subscribing to the share issues quickly sold their holdings, mainly to the financial institutions.

By contrast, many developing countries try to limit participation to particular groups of shareholders, which then exclude potential buyers. In addition to foreigners and non-resident nationals there may be restrictions on ownership by certain ethnic or social groups as in the case of Kenya and Malaysia, for example. However, these restrictions are not found exclusively in developing countries. Japan, for example, is not allowing foreign purchases of shares in the telecommunications company, NTT. Also, the UK and the French privatisation programmes have formally or informally imposed restrictions on foreign ownership.[1]

To sum up, the most important warning for Jordan is that policies which have been used in the UK and other developed countries are not necessarily directly transferrable to different circumstances and stages of development.

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(1) Hemming, R. and A. M. Mansoor (1988), op. cit.

9.9 Problems Encountering Privatisation Schemes in Jordan

Although the privatisation experience in Jordan is still very limited in years and in coverage, a number of problems have already been identified as posing serious impediments to the implementation of privatisation schemes. Some of those problems are general in nature and apply to all privatisation attempts in the country, and others are enterprise-specific and are related either to the financial or administrative conditions of the enterprise concerned or to the industry in which that enterprise operates.

Among the more serious general problems is the current depressed state of the economy. The slowdown in economic activity has caused a number of profitable enterprises to incur losses, or has aggravated an already poor financial performance for others. This has rendered prospects for applying the second component of privatisation strategy in Jordan and for making a successful public offering of shares very difficult.

The slowdown has affected the availability of capital in the country and the willingness of private investors to subscribe in the shares of privatised enterprises. The slowdown resulted in a drop in gross fixed capital formation by the private sector by over 20% during the years 1987 and 1988. Funds coming from neighboring Arab countries in the form of remittances of Jordanians working there also dropped by 22% in 1987, which further aggravated

the problem.

The second serious problem is embedded in the general perception of the Middle East by foreign investors, as an area of civil and military disruptions. Despite the fact that Jordan is a very stable country, socially and politically, many foreign and even domestic investors are reluctant to invest in Jordan because of the 'investment climate' in the area in general, which refers to the interaction of the political, economic and social and security factors, as well as the legal administrative considerations.

A third problem relates to the state of development of domestic financial markets which, as we have already seen, are still not adequately developed, despite the fact that considerable attention is being paid to their possible improvement.

The support of middle management for privatisation schemes is not always very strong. The programme of privatisation has the full support of some government officials and top management of the enterprises concerned. Middle management, however, is not always very supportive. As efficiency and cost savings are seen as the primary benefits, middle management tends to perceive their activities as adequately profitable. This is mainly because they ignore sunk costs and those elements of costs shouldered by the government such as the interest and

amortization of loans contracted by the government on behalf of those enterprises.

9.10 The Effects of Privatising TCC

Privatisation raises a number of issues for various groups with an interest in the health of the TCC. Taking these in turn, what effect will privatisation have on their interests ?

In terms of the Government's stated objectives, the advantages of privatising TCC seem very limited, as far as the incentive to behave commercially is concerned. Thus, the additional pressures from operating within a regime appropriate to a private limited company are likely to be weak, because none bear on the central problem that the sheer size of TCC plc makes monitoring of performance difficult, be it by government or by market. As things stand, the Government is likely to be the only organisation in a position to do the task effectively, so that, in that sense, privatisation achieves nothing.

Experience seems to demonstrate that in many circumstances, it is absolutely essential to address employee concern at the earliest time of initiating and implementing a privatisation programme. Consideration should be given to how privatisation will impact on government employees. What are the government's legal or moral obligations to safeguard employees jobs, minimize

reductions in compensation and benefits and so forth ?

Public sector enterprises tend to be over-staffed since one of the main tasks for public enterprise heads is providing employment. Employees of public enterprises are commonly opposes privatisation because of the potential effect on jobs. Even where there is no probable or significant reduction in employment, for example, the employees of public enterprises may still oppose the privatisation if they perceive that less employment security would result from private ownership, or if they would lose civil service or quasi-civil service advantages, benefits and the like. Thus, for many public enterprises it may not be possible to attract private equity capital if excess employment issues are not resolved. Pension benefits are also a major issue as well as illustrated by the privatisation of British Airways where index linked pensions actually had to be bought out as part of the conversion from public service to private employment[1].

One reason privatisation frequently lowers costs is the possibility of widespread reduction in employment as a consequence of the excess employment in many public enterprises. B.A., for example, reduced its staff from approximately 58,000 to approximately 38,000 as part of the readying process for privatisation, and soon, thereafter,

(1) Vuylsteke, C. "Techniques of Privatisation of State-owned Enterprises", Vol. 1, World Bank Technical Paper No. 88, Washington DC, World Bank (1988), p.136.

increased it to nearly 42,000[1] Therefore, under a privatised TCC, employment would be less stable, with job losses occurring as an inevitable consequence of running the company in the most cost-efficient manner. There would be much greater movement of people in and out of TCC, with employees being recruited to a specific job rather than to a grade.

However, some of these changes are an essential part of the commercialistion process which are already taking place within the nationalised TCC. Thus, the objectives of better use of labour can be achieved under the umbrella of commercialisation without the need to privatise TCC.

As we have seen earlier in this chapter, any increase in efficiency stems from freeing the TCC from rigid rules, regulation, or political interference, but not from privatisation. Privatisation would be likely to offer TCC plc greater flexibility in raising funds to finance capital investment but the chances are that the cost of borrowing is more likely to rise rather than fall. Borrowed money still has to be paid back, along with the higher rates of interest, which again will be paid via higher tariffs to the customer.

TCC currently subsidizes many services that do not pay their way by raising the prices of services that do. This option may be severely limited under privatisation and the accompanying regulation. Tariffs will be closely related

(1) Vuylsteke, C. (1988), op. cit., p.130.

to the real costs of providing each service. In particular, rural customers may suffer, having to pay higher prices for many services than customers in densely populated areas. The effects of this kind of geographical discrimination may be differences in tariffs, in choice of services, in quality of service etc. Such discrimination may also take place between different regions of the country and between business and domestic customers, with domestic customers suffering proportionately higher increase in charges. Some services designed to meet social needs may be eliminated. therefore, instead of broadening the range of services and reducing costs, for many customers, privatisation would mean higher charges and at the same time, the customer's ability to influence decisions will be greatly reduced.

9.11 Conclusion

In many countries, privatisation has been mentioned as an element in the structural adjustment efforts. In general, except in the UK and France, little privatisation has actually occurred. In this chapter, we have argued that the merits of privatisation are likely to be influenced by the economic, social and political factors that are appropriate to the country concerned.

This chapter has also argued that privatisation should be assessed in terms of its origins, motives and its stated objectives. Economic efficiency is the overriding

objective of privatisation programmes anywhere. It is the key to improving the performance of public enterprises and the source of other gains often attributed to privatisation (its favourable budgetary impact in particular). Many other objectives such as reducing unions power and widening share ownership are unlikely to be related to efficiency gains. They can probably be more effectively achieved by other policies (reforming trade unions and tax incentives to promote saving for example).

Much of the argument in Britain and elsewhere has centred around the benefits of privatisation as against public control. Little attention has been given to the problems of regulation of the private monopoly thereby created. Some form of government regulation would certainly be called for after privatisation, particularly if a high degree of monopoly power persists. Generally, governments have also retained some rights for continued intervention, which may frustrate the drive to improve efficiency, the overriding objective of privatisation programmes anywhere.

Having mentioned regulation in its general term, it is important at this state, to investigate its important issues. The term regulation can be applied to any activity of government or its agencies that seeks to influence behaviour via the establishment of rules to guide or constrain economic decisions. Historically, there are three theories of regulation which have been developed to

explain the regulation of industries. the first of these, some times called the public interest theory, argues that the goal of regulation is to produce a competitive outcome in an industry where this is impossible because of economies of scale, and that these intentions will, in fact, be carried out by the regulatory process. However, few now believe that much of the regulatory process works in this way, since good intentions are not enough when a regulatory agency is given real economic power and turned loose in the political market place.

The second theory is what is called the theory of regulation. the central outcome of this theory is that the dominant group in the regulatory game is likely to be a small one that has a relatively large per capita stake in the outcome, and this leads to the conclusion that producer interest tends to prevail over the consumer interest.

The third theory is the public finance or "taxation by regulation" approach which argues that regulators use the regulatory process similar to the taxing and spending function of all governments, in that it is used to subsidize one part of the electorate at the expense of another in order to maximize the political capital of the regulators.

With regard to regulatory institutions, the actual form that the institutional setting of regulation and re-regulation takes is likely to reflect the historical

traditions of state/industry relations in the country concerned and the power of the relevant bureaucracies. In the U.K., pre-privatisation regulation of telecommunications, for example, was undertaken by the Department of Industry. Post-liberalisation regulation was also undertaken by the Department, but it proved unequal to the task of controlling B.T.'s new-found powers. Post privatisation regulation is shared between the Department, which sets the rules, and a new semi-independent agency, the Office of Telecommunications (OFTEL) which applies the Department's rules and makes regulatory decisions concerning B.T.'s anti-competitive behaviour. The Director of OFTEL is appointed by the government and it has a small staff of ninety. Semi-autonomous agencies are a favourite mechanism of the Conservative governments.

In Japan, where state and industry have been close historically and where the bureaucracy has high status, regulation of NTT, prior to privatisation, was undertaken by the Ministry of Posts and Telecommunications (MPT) subject to laws passed by the Diet, and by the Diet itself. Post-privatisation re-regulation is undertaken by the Ministry of International Trad and Industry who exercises a strong and pervasive influence over industrial strategy, as a government organisation within Japan.

The United States has a tradition of regulation by independent agency, operating under the general rubric provided by legislation passed by Congress and under the

review of the Courts. The Federal Communications Commissioners are appointed by the president subject to ratification by Congress and since 1934 have been responsible for the regulation of telecommunications, radio and TV. The courts have often ruled through anti-trust action in a way which would be inimicable in either the U.K. or Japan, but which has kept the identification of the FCC with AT&T's interests under some control. It was under such anti-trust action that AT&T was divested of its operating companies in the early 1980s, but it is unusual that those companies activities are still post-divestiture being regulated by the court, whereas AT&T's are regulated by the FCC. It is also evident that whereas pre-divesture regulation was divided between FCC on interstate services and the state public commissioners on intrastate, the divestiture has opened space enough for the FCC to extend its regulatory decisions to intrastate matters. And in the U.K. and Japan, deregulation has provided the opportunity for wider exercise of of power by the central bureaucracy.

These are three methods which represent the different forms of regulation which are evident in the telecommunications market in the three countries. Each has given rise to the question of who benefits from regulation?

As it is generally believed, economic regualtion is intended to act for the benefit of the consumer by creating lower prices than the monopoly would create without regulation. A number of American academics have challenged

this view arguing that the consumer is unrepresented or ignored in the regulatory process - that regulation is ineffective in reducing prices and that the process of regulation benefits the regulated industry or the bureaucracy which regulates it. Economists also point out to a set of critics of regulation. They argue that economic regulation is simply another method of transferring wealth from one group to another and that this should be explicit, rather than hidden. they content that the ending of economic regulation involves the state in making social regulation public through direct subsidies to uneconomic services. In the U.K., for example, privatisation of telecommunications has resulted in the idea of socialfunds to offset the costs of emergency services. Some economists argue that if governments want to subsidise residential telephone subscribers then they should do so openly with a subsidy and that all services should be based on cost.

A second set of economic criticisms of regulation point to the ineffectiveness of such a system in fostering innovation and thereby reducing costs. Another criticism revolves around the reputation of monopolies for being unwilling to meet the needs of the consumer. they are said to be inflexible and bureaucratic, dictating to rather than responding to the market. Furthermore, it is argued that monopolies may, in fact, not need regulation in order to stop them exploiting their market dominance with monopoly prices. They argue that the monopolies may already face

competition from other monopolies. For example, although gas may be a monopoly, it faces competition from electricity so it will not charge monopoly prices.

One final set of critics of regulation is that bureaucratic actions will be aimed primarily at defending their position, in extending their territory, building empires and increasing regulation.

Given this, it can be said that the problem for regulators do not end with more liberalisation. Where monopolies have operated for numbers of years, their market share, even after access of competition is allowed, may be dominant. Such dominance may be seen both by its competitors and by consumers as a threat demanding some form of transitionary regulation; this will be most notably the case after the sale of B.T.

However, experience in the United States suggests that government intervention and regulation can have severe distinctive and distortionary effects. Other countries also provide further evidence of this.[1]

In examining the proposals of privatising the TCC, the absence of any policy document or official statement or plan for privatisation makes it more difficult to assess

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(1) See De Alessi, "An Economic Analysis of Government Ownership and Regulation", Public Choice, Vol. XIX, Fall, (1974).

and for the government to be criticised for failing to meet its objectives. Nevertheless the government should bear the following points in mind.

First, there is no single model for achieving success. Privatisation can range from outright sale to a private sector buyer, to the transfer of shares to employees. Although there is no ideal model that fits all situations, the prospect for privatisation is greatest in countries that have financial mechanisms that facilitate privatisation.

Second, because of natural monopoly elements in telecommunications (particularly in local networks), the extent that competition can be effectively introduced will be very thin, which means a very small incentive to improve efficiency when public monopoly is transferred to the private sector with its monopoly power intact.

Third, public enterprises have been commonly used to meet social and other non-commercial objectives. It is unlikely that privatising public enterprises can be required to operate according to market criteria without sacrificing some other more compelling objectives. Thus, in competitive and purely private regimes, it would be difficult for the government to maintain social and other obligations.

Fourth, the government would still be forced to

intervene if TCC is privatised. Not only will regulation be necessary, but the government could not stand by if TCC were to make losses for example. Once such intervention became extensive, then the very benefits which a private mode of operation is supposed to produce would disappear.

Finally, when assessing the impact of privatising the TCC and the various other interest groups involved (e.g. the government, the customers, the staff, ... etc), it seems that they gain nothing from privatisation either.

CHAPTER 10

Summary and Concluding Remarks

10.1 Summary

10.1.1

The telecommunications is an industry where rapid technological innovations are being made. The inexorable merger of telecommunications and data processing technologies during the previous decade have opened the way for the provision of new and more advanced telecommunications services. Modern telecommunications are becoming essential to business activity - initially to compete in the international market place and increasingly for domestic business activity as well.

10.1.2

The introduction, growth and development of new telecommunications, which do not fit easily into existing institutional and regulatory frameworks, have generated pressure for a review of changes in the traditional institutional and regulatory structure of telecommunications. Since 1980, major institutional changes have been affecting the telecommunications sector though they differ from one country to another. In the USA, they

found expression in a strengthening of competition to the prejudice of the quasi-monopoly carried out by AT&T. In Europe, and particularly in the UK, with the transfer of BT to the private sector, privatisation is the prevailing phenomenon. Thus it can be argued on technological grounds that during the next few years, extensive government regulation of telecommunication services or franchised government monopoly may not be the best way to create a dynamic, efficient and responsive telecommunications sector.

10.1.3

The provision of traditional telecommunication services (voice service) which accounts for the highest proportion of network use, has significant social value, and making them available at reasonable cost to every possible user is a desirable policy goal. Telecommunications traditionally have been organised within state, or at least highly regulated private monopolies. Given this situation, how can countries best balance their interests in safeguarding the benefits of a monopoly form of organisation without abandoning the benefits of rapid technological innovation? The broad answer to this question is through regulation and public policy. In other words, it

is up to decision makers to decide how much of the network should be reserved to a monopoly? How should the monopoly be best managed ? How much, and what kind of competition should be permitted and how should that competition be monitored and regulated?

10.1.4

The TCC was established under Law No. 29 of 1971, as a corporate body with "financial and administrative independence". But, whatever reasons may have existed, this financial and administrative independence was never implemented; hence, the TCC as it now exists, is not an autonomous public corporation. The full bureaucratic control and complex procedures and practices which are inherent in Government Departments is still applied to the running of the TCC as a public corporation. It is still tied to the Government budgetary requirements, it cannot make independent decisions on capital investment and it is still tied to Government rules, regulations and conditions of service. It is not allowed to raise wages or salaries and thus, it is at a competetive disadvantage in the labour market. TCC has become an accepted practice in many cases, leading to the creation of a corps of inefficient workers who cannot be removed. It has been requested to employ

specific persons to pay political debts. As a consequence, there are considerable limitations on its ability to operate in a commercial and entrepreneurial environment.

10.1.5

In order to utilize the fruits of technological development to their utmost, and to meet escalating needs and pressures, a structural change is required. Re-shaping traditional telecommunications policies is, therefore, the result of technological, economic and ideological pressure. The world wide trend towards privatisation in telecommunication services has not left Jordan untouched. TCC has been accused of inefficiency. It was one of the first public enterprises to be targeted for privatisation. Although it was a well-managed and profitable organisation, it suffered from serious administrative and financial constraints as a result of adhering to the civil service regulations and payment scale. The question which arises is what evidence is there to suggest that TCC is generally inefficient, and why should privatisation improve efficiency ?

10.1.6

Recognition of the role and importance of telecommunications has led to increasing

attention being given to its economic performance and contribution to economic development. As a consequence, there is growing interest in the relative behaviour and performance of public and private enterprises, to see whether there is any difference, and if so, to identify the reasons and causes of the observed differences. Comparative studies of this type are difficult because of problems of cross-country comparison, the selection of performance criteria, the circumstances and policies facing public enterprises inputs and outputs and also, because the conditions between public and private operations are rarely comparable since the public enterprise will be subject to implicit or explicit handicaps vis-a-vis its private counterpart because it has greater social and employment obligations.

10.1.7

Government price policy is a major determinant both of public enterprise performance and its perception. On the one hand, pricing policy invokes a behavioural response from the management, on the other it affects the ex-post profitability calculation of enterprise performance. If the rules governing the pricing of public output are non-optimal, they will lead to inefficient responses from the management.

10.1.8

A review of the available literature dealing with the relative performance of private and public enterprises suggests that no simple generalisation about superiority of private enterprise performance can be sustained. A competitive environment appears to be a stronger component in improving enterprise performance than the form of ownership.

10.1.9

Performance can be defined in terms of success in achieving stated objectives, and the process of performance evaluation, in principle, follows a step-by-step procedure of identifying the objectives set for the concerned public enterprise and constructing performance indicators to measure the degree of attainment and measuring performance.

10.1.10

The evaluation of TCC, using a performance approach (outcome evaluation), points to the success of the TCC in achieving the goals which are attributed to it in the previous 5 Year Plan (1981-1985). Thus, judged by its objectives, the TCC has clearly been successful.

10.1.11

The problem of evaluating the performance of any organisation - public or private - has been an ongoing concern of economists and organisation researchers for some time. Performance evaluation has become fundamental to any society concerned with accountability and the social and economic performance of its institutions. The concept of measuring effectiveness and efficiency is based on the view of organisations as production systems, transforming multiple inputs (resources) into multiple outputs (goods and services) through organisation, management and technology.

10.1.12

In evaluating any public enterprise, we are looking at the contribution of the enterprise from society's point of view. All costs and all benefits associated with its operations must be looked at. Given the constraints of resources and technology, an enterprise must, therefore, attempt to maximize social utility or social welfare.

10.1.13

There has been a respectable number of models and methodologies to evaluate the performance of public enterprises. Unlike private enterprises

where profit is the accepted yardstick for measuring enterprise performance, there is very little agreement on a similar measure for public enterprise performance. However, the criterion that satisfies the fundamental principles of performance evaluation, that each cost and each benefit should be counted at least once and at most once, and therefore meet our basic requirement for a criterion, is public profitability. Several adjustments are to be made on the profit and loss statement to arrive at the ratio of public profit to operating fixed assets. Adjustments are also to be made for changes in those factors and constraints which affect the size of the public profit, but are out of management control.

10.1.14

A careful and detailed analysis of the TCC performance in chapter 7, seems to have sustained the early conclusion of the TCC performance evaluation using the outcome approach in Chapter 4. The finding point out that the TCC performance, in general, and managerial performance, in particular - according to public profit at constant prices, has improved during the years under review.

10.1.15

The result can be used to argue against that of accusing the TCC of inefficiency and bad performance. The results highlight the fact that the nature of technology, prevalent institutional arrangements and specific policies adopted by the government have a major effect on performance.

10.1.16

It is important to realise that although public profitability is measured in constant prices, it cannot account for the fact that current prices may have output effects which lower the optimal level of output and make the TCC look worse even in constant prices. The only way around, of course, is to set "targets" or "criterion" values that take market factors into account and evaluate management on this basis.

10.1.17

Privatisation, particularly in developing countries, is a new phenomenon. Little of the rather limited privatisation that has occurred outside the major programs of asset sales in the UK and France, has taken place in developing countries. Consequently, it is hardly surprising that no model has emerged to assist decision makers in the planning and implementation of such transactions. Hence, it is important to examine

individual cases to determine what elements of the transaction are unique to a sector or country situation and which are likely to be useful to decision makers contemplating future transactions.

10.1.18

Privatisation can range from outright sale to a private-sector buyer, to the transfer of shares to employees. Although there is no ideal model that fits all situations, the prospects for privatisation are greatest in countries that have financial mechanisms that facilitate privatisation.

10.1.19

Much of the argument in UK and elsewhere, has centred around the benefits of privatisation as against public control. Little attention has been given to the problems of regulation of the private monopolies thereby created. It is worth remembering that some form of government regulation would certainly be called for after privatisation. Widely, governments have also retained some rights of continued intervention, which may frustrate the drive to improve efficiency. The American and other countries' experiences suggest that government intervention and regulation can have severe distinctive and

distortionary effects.

10.2 Concluding Remarks

10.2.1

This thesis has argued that privatisation should be assessed in terms of its origins, motives, stated objectives and its effect on economic efficiency, which is not only the key to improving the performance of the concerned public enterprise, but also the source of other gains often attributed to privatisation, in particular, its favourable budgetary impact.

10.2.2

Attempts to achieve a more efficient public enterprise must begin with an understanding of the factors inhibiting adequate performance. Are there factors purely inherent, arising from public ownership per se, or are there other important determinants of performance, separate and apart from ownership, but which can be influenced by government?

10.2.3

It is commonly and rightly pointed out that efficiency can be increased if enterprises are substantially freed from political interference and existing incentives and control mechanisms

are directed towards requiring enterprises, as far as their social and other non-commercial objectives permit, to function along commercial lines and to become financially independent.

10.2.4

Privatisation thus, according to most economists, only makes sense when there is plausible evidence that the enterprise will become more efficient as a result. Yarrow (1986) states that "privatisation affects economic performance indirectly, via the behavioural changes induced by shifts in incentives. In policy evaluation, therefore the fundamental question concerns the efficiency, judged in terms of given objectives, of alternative incentive structures."[1]

10.2.5

The UK privatisation program has been widely noted, and widely imitated. Although the reasons for privatisation vary across countries, in the UK, as in other countries, it also reflects a renewed belief in market forces. The search for policy options that emerge from this renewal, however, needs to be tempered by an understanding of market as well as regulatory failures.

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(1) Yarrow G (1986), op. cit, p.363.

10.2.6

In many developing countries, greater importance is attached to social and other non-commercial objectives. Hence, a relatively large public enterprise sector can be found in these countries. It is unlikely, therefore, that a privatised enterprise can be required to operate according to market criteria without sacrificing some of the more compelling objectives. Given the different structure and objectives of public enterprises in developing countries, the character of any privatisation programme is likely to be different from that of the UK or other industrial countries.

10.2.7

The growing size of public enterprises in developing countries and the requirements of economic development on scarce resources, have accentuated the need for measuring performance of public enterprises in recent years.

10.2.8

When assessing an enterprise performance, two sets of factors should be taken into account. The first consists of country specific cultural, social, political, macroeconmic and institutional characteristics. The other comprises more enterprise-specific matters, such as the degree

of autonomy, extent of both domestic and foreign competition and the corporate and managerial environment.

10.2.9

In examining the prospects of privatising the TCC, there is no convincing argument in its favour. It offers no economic advantage. It is likely to reduce employment in the TCC rather than create more jobs. The sale of TCC is too big for the Jordan equity market to absorb. The customer, particularly domestic customers, would in many cases pay more for a reduced service while losing all influence over the behaviour and policies of the continuing monopoly. Various other interest groups involved would gain nothing from privatisation either.

10.2.10

From the preceding chapters, the option open to the government is to release the TCC from government ties so that it can be operated as a truly autonomous business, motivated to provide services to its customers at a reasonable cost, and make adequate return on the capital invested in its assets. TCC need more flexibility in telecommunications policy and less radical changes than have occurred in the UK, for example. Some authorities in Jordan favour a

liberal regime if appropriate measures are taken to maintain the secrecy of communications the safety, reliability and fairness of telecommunications services.

10.2.11

Freeing the TCC from government rules and regulations will be a logical step and a significant move in the right direction towards restructuring the TCC to allow it to operate effectively in a commercial environment. The ability to react quickly to market situations and make commercially-based decisions is better practiced within the framework of a truly autonomous business than within a government department.

10.2.12

Technological change and the many new services which it has made possible are forcing countries to adopt their telecommunications structures. However, restructuring TCC would not have solved all the problems at hand, especially that of a natural monopoly in local networks, but it would have diminished some of them. It is argued that restructuring can promote competition. If, for example, a dominant enterprise is divided into component parts, there may be scope for competition between these parts. But in

telecommunications, the scope for competition between the parts is very limited. Local network A, for example, does not compete with local network B. Hence, a central issue in the formulation of public policy as it relates to the telecommunications industry is whether or not that industry, or important segments of it, exhibit the characteristics of natural monopoly. Experience suggests that private ownership without competition creates no effective market pressure. Thus, it can be said that a fully competitive private enterprise in telecommunications is not available due to the existence of natural monopoly in local networks.

10.2.13

A variety of methods can be identified, by which efficiency could be monitored with TCC as an autonomous public enterprise. The accounting framework, for example, can be made to identify separate profit centres for as many parts of the business as possible. Loss making services would then become easier to identify and quantify and appropriate decisions made.

10.2.14

It should be possible to identify various other methods, which would have the same effect on monitoring productivity and efficiency, and the

opportunity to do so is far higher within a publicly-owned TCC than would be the case in the privatised TCC. The public sector is at least subjected to regular efficiency audits, while on the other hand, a privatised company could, and almost certainly would, resist such detailed examination and comparison. In brief, the benefits to managerial efficiency, the government claims, do not flow from privatisation and could be equally obtained without change in ownership by relaxation and greater freedom for the TCC to respond to market forces effectively.

10.2.15

Finally, given the current economic and political situation in Jordan, and the role of telecommunications in socio-economic development, we may say that a real likelihood of substantial moves towards transferring the TCC to the private sector is very slim. Many economists have also expressed deep reservations about transferring enterprises from the public to the private sector with most of their existing monopoly powers left intact. They have argued that privatising public enterprises is not a sufficient condition to ensure behaviour more in tune with the needs of the consumer. A greater probability of success may be achieved through the ability of management to run the business free from government

interference, even if it remains in the public enterprise sector. In this respect, the interest of TCC management would, therefore, be best served by lowering government restrictions and regulations.

10.2.16

Many economists argue that the telecommunications sector is too important to be left to the private sector and that questions of standards, network evolution and quality of services must be carefully considered by the government in the public interest. We can only hope that the Jordanian Government will learn from the experience of the United States, and provide a clearly specified, limited form of regulation which allows the valuable benefits of relaxation from government restrictions and regulations to be achieved without too many of the costs.

10.3 Recommendations

10.3.1

This thesis offers several suggestions and recommendations for government policy. First, there is the general suggestion concerning the regulatory process that currently has the responsibility of establishing the basic parameters for a long term framework for telecommunications in Jordan. Second, specific

policy reforms are presented.

10.3.2

Direct regulation by either government department or independent tribunal is definitely not recommended. Indirect regulation relying on the information signalling and incentive creating properties of competition is strongly recommended. As a point of interpretation, policies improving economic efficiency should not be confused with policies aimed at improving the internal operating efficiency of TCC as a public enterprise. The criterion of economic efficiency is a much broader concept recognizing the wide variety of interests in government departments, businesses, resource owners, workers and consumers, as well as that which TCC has in telecommunications.

10.3.3.

Telecommunications is, perhaps, the most contemporary example of a utility industry which is in the process of being transformed by technological change into a more normally competitive business. Although the economies of local dedicated telephone lines remains naturally monopolistic, competitive close-substitutes are developing. Services such as data networks, mobile telephones and paging, which are not

subject to large economies of scale, may be provided efficiently by private enterprises. This would enhance private sector participation in telecommunications, mobilize new resources for investment, improve responsiveness to specialized business demands and free TCC to concentrate on the task of developing and efficiently operating, maintaining and managing the national infrastructure of basic telecommunications facilities.

Under such a regime, TCC has two major advantages:

i) it can fully exploit the economies of scale involved in telecommunications;

ii) it can meet the social equity objective of universal service in a manner which is economically efficient and cost-effective.

Another major policy concern regarding sector restructuring is that of resource transfer between the sector and the government. This will eventually require policy decisions regarding tariffs, taxation of TCC and TCC's financial structure.

10.3.4

TCC is not organized and managed as a business. Its present structure does not have the

management characteristics of a commercial telecommunications entity and it lacks some important functions such as treasury, corporate planning and marketing. Managerial accountability is limited and service performance, financial performance, manpower and overall productivity of major organisational units and services are not regularly monitored. The existing structural linkages among the various functions are loose and should be reinforced to enhance TCC's ability to manage growth, technological change, innovation and integration of new services. Its management functions need to be strengthened through the introduction of new skills and modern systems using information technology.

10.3.5

While the telecommunications sector is commercial in nature, its operating entity is constrained by the public administrative and financial regulations and procedures. The finding of this thesis points out the urgency of introducing major reforms to optimize the overall policy and institutional framework for the telecommunications sector. The objectives are to increase TCC's efficiency and productivity, maximise resource transfers to the Government and enhance the sector's contribution to the economy

as a whole. On the basis of the work undertaken, the overall sector development stage and needs, and an in-depth analysis of all the available, relevant, technical, financial and other data, it is clear that the most appropriate option open to the government is to release the TCC from rigid rules, regulations and political interference. TCC should, to the extent possible, be allowed to operate freely. Thus, any meaningful strategy for the future development of telecommunications services in Jordan must address the following two fundamental requirements:

10.3.5.i

The establishment of financial and administrative independence for the operations of the TCC. This would imply:

10.3.5.ii

Restructuring the TCC as a fully autonomous administratively and financially Government-owned corporation, to establish the foundation for operation of the telecommunications services in commercial business rules.

10.3.6.

Performance studies should be considered as an essential requirement in the debate over whether to privatise certain activities or not, by showing the degree of weaknesses and strengths of its performance and its relative efficiency

versus private production (if possible). Various governments and public enterprise boards have recently commissioned more or less extensive studies from either private consultants or university teams.

10.4 Agenda for Reforming Public Enterprises

10.4.1.

Public enterprises face a wide range of handicaps. Over-coming these handicaps requires a new kind of leadership: the public official or political candidate who can change the calculus of interests, so that citizens (as both tax payers and service users) learn the connection between restructuring and lower costs and better service. It requires the ability to understand both the principles of good economics and the political reality of achieving them.

10.4.2

With reference to the foregoing work, the thesis has suggested ways of improving public enterprise efficiency by concentrating on the problems and difficulties arising mainly from the peculiar nature of these enterprise relations, in general, to its owners: relations which are both tighter and looser than that which is typical of private co-operation. Any attempts to improve the functioning of public enterprises while retaining

public ownership have generally involved modifying this relationship through the following key elements:

10.4.2.i

The first is setting clear cut and attainable objectives. The separation of commercial and non-commercial objectives as a basis for distinguishing between the respective responsibilities of the managers and the politicians (the latter representing the owner state) is therefore required. The cost of non-commercial constraints placed on public enterprise should be calculated and weighed against the benefits to society. Once constraints have been identified and the costs estimated, the government can instruct the concerned public enterprise to maximize its profit, taking into account other objectives that reduce profit by lowering its profit target, for example.

10.4.2.ii

Setting clear cut and attainable objectives permits a second element , namely negotiated agreements such as contracts or corporate plans which can help to put public enterprise government relations on a more constructive plan. In particular, two way contracts can help win

public enterprise management over to the idea of reform by setting out benefits as well as responsibilities.

10.4.2.iii

A third element is that managerial ability is a key to the success of public enterprise restructure. Decision-making authority should be delegated to managers. To facilitate decision-making, enterprise management, accounting and auditing information systems should be developed, and to ensure professional and experience management, the selection, appointment, promotion, compensation and tenure of enterprise management should not be ad hoc, but should be based on a well structured and transparent scheme. For the purpose of accountability, it is necessary to set a clear demarcation of the role and responsibilities of the government to the Board of Directors of the public enterprises and their management - with the government exercising its ownership role, the Board its policy/strategy setting role, and management its day-to-day operational role. The provision of greater management autonomy to the public enterprise by clearly separating its operation from that of government departments is therefore of great importance. Managerial incentives linked to performance are also important in motivating top

managers. Some of the most powerful incentives are non-pecuniary, recognition, prestige awards, for example. With strong political backing this agenda is feasible.

10.4.3

The search for increased effective accountability requires a process whereby performance can be assessed. Systems for monitoring and evaluating public enterprise performance to transform good intentions into results, accompanied by frequent reporting, appears to be the most promising instrument in this respect. By requiring public enterprises to pay the opportunity costs of their capital, government could add to the pressures for good public enterprise performance. Effective accountability also requires that there be sanctions in case of poor performance, e.g. a change in top management, for example.

10.4.4

In sum, without clear cut objectives, there can be no standards by which to judge performance; incentives can be linked to performance only if there is a meaningful way to measure results: performance evaluation makes sense only if managers have the autonomy to influence outcomes: without performance and evaluation, there is no way to distinguish good managers from bad.

Developing a framework to guide public enterprises towards efficiency will be a logical step in the right direction. Such a process requires commitment, persistence, and flexibility on the part of the government authorities, and public enterprises management.

10.4.5

A continued search for cost efficiency in public management is required for ways of attaining public objectives at an acceptable resource cost. It is by no means obvious that this requires any sacrifice of social goals, but what it does require is greater emphasis on incentives for improving the quality and grade of service, eliminating unnecessary expense, reallocating resources more flexibly, achieving greater transparency and accountability, and far more carefully, weighing the costs of courses of action against benefits. Such an emphasis is important both in the internal conduct of the public sector's affairs and in its relations to the economy more generally.

10.4.6

Finally, it is hoped that this study will provide some guidance to decision-makers in Jordan and may prove pertinent to future investigation of the telecommunications policy in Jordan.

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