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The Role of Information in Telecommunications Regulations

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COMMITTEE FOR INFORMATION, COMPUTER AND COMMUNICATIONS POLICY

THE ROLE OF INFORMATION IN TELECOMMUNICATIONS REGULATIONS

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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FOREWORD

In the context of the work on telecommunication performance indicators, the Secretariat organises a Workshop on Telecommunication Performance Indicators every two years. The aim of these workshops is to help improve existing indicators, develop new indicators and improve the OECD's telecommunication tariff comparison methodology. This paper, commissioned by the Secretariat and prepared by W.R.B. Wigglesworth, former Deputy Director General, Oftel (UK) was presented to the Workshop on Telecommunication Performance Indicators held on 28-29 September 1995.

The paper examines the role of information in the regulation of telecommunications and the impact of changes that are likely to occur in the nature of such regulation, in developed economies, from the regulation of monopoly, through the development of competition to the emergence of a full telecommunications market. It draws mainly on the experience of telecommunications regulation in the UK, but also takes account of related experience elsewhere.

The paper was derestricted by the Committee on Information, Computer and Communications Policy at its 29th Session held on 27-29 March 1996 and is published under the responsibility of the Secretary-General.

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THE ROLE OF INFORMATION IN TELECOMMUNICATIONS REGULATIONS

W.R.B. Wigglesworth

former Deputy Director General, Oftel, UK

Without adequate information, as experience has shown, regulation cannot be effective.

Sir Christopher Foster: Privatisation, Public
Ownership and Regulation of Natural Monopoly.
Blackwell, 1992, p 226.

CHAPTER 1 -- INTRODUCTION

Information is power. Nowhere is this truer than in regulation; and in telecommunications regulation particularly. For the complexity of the telecommunications systems to be regulated and the rapidly developing technology involved means that, in telecommunications even more than elsewhere, detailed information is the indispensable basis for the knowledge that the regulator needs to perform his role effectively. The regulator needs information on which to base a range of decisions affecting many different parties; to create incentives for the incumbent monopolist and for new market entrants; to ensure that the development of competition is not hindered, that customers receive sufficient information to exercise meaningful choice and that the processes leading to the development of a full market are, so far as possible, understood and supported by all sections of the community. The regulator therefore needs to develop a clear view of the purposes for which information is required, what information is needed, how best to obtain that information and how to deal with the information once it is available. Only then will he be equipped to function effectively.

This paper examines these aspects of the role of information in the regulation of telecommunications and the impact of changes that are likely to occur in the nature of such regulation, in developed economies, from the regulation of monopoly, through the development of competition to the emergence of a full telecommunications market. The paper concludes that at all stages the handling of information is an essential element of the regulatory process whose importance can hardly be over-estimated, but which changes as the state of the market changes; it recommends ways in which the regulator needs to be equipped in this regard; and it suggests some pitfalls to be avoided. The paper draws mainly on the experience of telecommunications regulation in the UK, which has been the author's background; but also takes account of related experience elsewhere.

CHAPTER 2 -- PURPOSES OF INFORMATION

Regulating Monopoly

The telecommunications regulator, on first becoming involved with the telecommunications reform process, is most usually immediately confronted with the task of regulating an incumbent monopolist network operator. Except in rather few cases of countries fortunate enough to have comparatively efficient incumbent operators, the regulator's main initial concern is likely to be with raising the performance of the regulated company. Often the priority will be to encourage the extension of network coverage to meet unsatisfied demand, preferably on an economic basis. In other words, to "complete the network". But even where the network is essentially complete and meeting demand the regulator will be concerned to see improved efficiency, through the introduction of new technology, increased labour productivity, greater responsiveness to customer needs, increased sales volume, and so on. In addressing these issues, the regulator will be confronted with a range of information requirements. The regulator will need to be well informed about the current state of the incumbent's network, the practical options that are available to the incumbent in terms of investment and the introduction of new technology, what acceptable opportunities exist for improving labour productivity by increased investment, reduction in numbers employed, or increasing the size of the business; and how far some of these desirable ends may be achieved through improved marketing and measures aimed specifically at increasing sales volume.

In surveying this scene, the regulator will immediately be confronted by one of his greatest challenges: the huge information imbalance between the regulator and the regulated incumbent operator. The regulator will find that the incumbent actually, or potentially, possesses far more information on all matters relating to its business. This is likely to be so despite the paucity of information, particularly management accounting information, that is generally available to monopoly utility operators, compared with the amount of such information that competitive commercial companies would expect to have available to their own managements. An effective regulatory regime, therefore, in addition to aiming to stimulate the production of sufficient information to enable businesses in the sector to be run efficiently, needs to incorporate procedures that, in effect, leave most of the onus of proof in key regulatory cases resting on the regulated company. In the UK the order making powers of the Director General of Of tel to enforce compliance with licence requirements have such an effect, provided the Director has adequate information to initiate the action and to withstand scrutiny in the courts if the action is subject to legal challenge. Similarly, the reference of a proposed licence amendment to the Monopolies and Mergers Commission, if it is opposed by the regulated company, places much of the onus of arguing against the proposed measure on the company that will be affected. In this way the provision of the necessary information becomes an inherent part of the regulatory decision-making process, rather than requiring special action by the regulator, starting from an inadequate basis of background information.

At the same time, the regulator will need to be aware of two important dangers. First, the danger of "information overload". This arises either through requiring more information than the regulatory organisation can sensibly handle, or requiring more information than the regulated incumbent can or should reasonably be expected to provide. Secondly, the danger of becoming, in effect, drawn into the management of the company. Enthusiasm for the collection of information to ensure that regulatory decisions are well made should not be allowed to lead the regulatory organisation into areas that are properly the concern of the regulated company's management. The effective regulatory regime will therefore seek to avoid periodic requests for specific information, except where these are clearly essential,

and will seek to leave as much as possible of the specific gathering of information to regulatory discretion. And the wise regulator will limit demands for information to areas where information is clearly essential for a well-made decision. The most effective approach will be to seek to create the conditions in which the management of the regulated company will have strong incentives to pursue the regulatory objectives of improved efficiency, etc., and will provide the information to support and validate this process. This approach has been called "incentive regulation". Properly pursued, it rests on and helps to create a satisfactory regulatory information base.

Price Control

The most important example of incentive regulation is the approach that has been adopted to price control in the UK and elsewhere using the price cap method. Under this approach the regulated company is set a target, in terms of reduction in the average level of controlled prices below the current level of inflation, (typically as measured by the retail prices index or consumer prices index). Provided the target is set at a suitable level, the management of the regulated company has a powerful incentive at least to match the performance target on which the price reduction requirement was based; or preferably to exceed it, in which case the regulated company can retain the extra profit generated.

The decision to change from traditional methods of profit control of private sector telecommunications utility companies, as practised in the United States, to price control, was made specifically to take advantage of the potentially greater incentive properties of price control. This approach has been found to be highly successful, as shown by the large number of administrations that have adopted it or are in the process of doing so. But its effective application is crucially dependent on the provision to the regulatory decision maker of information on which to base decisions, first, the structure, scope and coverage of price control and, second, on its periodic application, particularly the central price control judgement on the overall level of price reduction required.

In order to make effective decisions in these areas, the regulator needs comprehensive information about the regulated company's business including:

- (i) existing and projected turnover of its main lines of business;
- (ii) investment plans for the price control period chosen;
- (iii) programme of efficiency improvements;
- (iv) planned levels of labour productivity improvement over the period concerned; and
- (v) the impacts that these changes are expected to have on costs.

Care needs to be taken particularly over the assessment of potential efficiency improvements where effective comparisons are especially difficult to make. The natural tendency is to base views on rather simplistic assessments of the ratio of exchange lines to the number of employees, but the regulator needs to take account of the defects of this approach. This particular ratio takes no account of different levels of contracting out of services by different operators and is subject to the disadvantage that the number of exchange lines is an imperfect measure of output for a telecommunications company. Assessing the capital/labour trade-off generally turns out to be rather complex and to depend crucially on the relevant costs. It is probably best for the regulator to use a combination of assessments, including an assessment of real unit costs.

Close co-ordination at working level between the regulatory organisation and the regulated incumbent is obviously essential on these assessments, on how the key parameters are expected to move and on the impact that this is likely to have on the company's profitability. As has now become general practice, it is useful, if not essential, for the two sides to model the effect of varying assumptions on the incumbent's business, preferably on the basis of an agreed computer model which allows discussion to be narrowed towards the reasons for optimistic or pessimistic approaches to the key variables.

The regulator also needs to consult users, competitors and all other interested parties about the impact that varying price controls are likely to have. It is important that anyone with a potential contribution to make to this process should have the opportunity of doing so. This amounts to a major information collection, consultation and dissemination exercise, which demands careful and effective execution. But at the end of the day, it has to be said that the central price control judgement, which depends crucially on an assessment of the most appropriate level of incentive, is more a matter of art than of science.

However, the effectiveness of that judgement will be greatly enhanced if everyone concerned is fully aware of the detailed basis on which it was made. The process therefore needs to be as open and as comprehensive as possible. One means of helping to achieve this is to publish at least a summary of responses to the consultative document, which is a strongly recommended opening element in the price control review process; and to make available the full responses for consultation if necessary, except where they have been made in confidence.

The price control process is likely to be most difficult in its initial phases, when the information imbalance referred to above is at its greatest. Experience in the UK and elsewhere suggests that governments are likely to find it particularly difficult to avoid setting a rather weak price control challenge to start with, in view of the acute information uncertainties that are likely to affect every monopoly incumbent from a public sector background. This suggests the need to ensure that the regulator, in addition to receiving regular information about compliance with the price control arrangements, is also able to review those arrangements early, should the need arise.

Premature change of the price control target, before the end of the designated price control period, is likely to have the effect of eroding at least some of the incentive effect. For this reason the regulator is likely to be reluctant to make any significant change during the price control period. But a review does provide a useful opportunity to publicise and explain the workings of the price control mechanism, to gain consumer support for the stance adopted by the regulator, to expose any weaknesses and to bring the power of public opinion to bear in support of the price control objectives.

Quality of Service

The obverse of price control is quality of service. A reduction in the quality of a service for the same price is equivalent to a price increase. Reduced prices and sustained or improved quality of service are necessary for the improvement in overall value for money for customers which is the fundamental objective of the price control arrangements. To ensure that quality is kept on an improving trend, and to provide the necessary public assurance, it is obviously essential that, by some means or other comprehensive information on the aspects of quality that are of most concern to users is available. However, this is an area in which the incentive approach to regulation can be most fruitfully employed.

It is, of course, possible to pursue a "straight" regulatory approach of requiring the incumbent to provide to the regulator comprehensive information on the quality of service being supplied; and to impose regulatory requirements that these should meet specified levels. There may well be a case for such measures, possibly as a service contract to provide assurance of maintained quality, or as a back-up regulatory requirement for minimum levels of performance, failure to achieve which should clearly incur some form of penalty. But to rely on such measures for first line regulation is likely to impose heavy

informational burdens on both the incumbent and the regulatory body, to possibly little effect; is likely to draw the regulator closely towards, if not actually to usurp, decisions that are properly for the management of the company; and is likely to have little, if any, incentive effect and, indeed, may possibly have the disincentive impact of heavy handed and needlessly detailed regulation.

Strongly to be preferred are three means of harnessing incentives to help the management of the company to ensure that it improves its performance as rapidly as possible

Publicity

The first of these weapons is publicity. All regulators, but particularly regulators of monopoly or quasi-monopoly utilities whose customers have little if any choice, soon come to recognise the importance of publicity. Indeed, the publication of information has at times been suggested as a possible sole basis for regulation (for example, in the nineteenth century "sunshine" regulatory approach of Charles Francis Adams and his followers in the US). Publicity puts pressure on the management of regulated monopolies to strive to ensure that quality of service improves to meet public expectations. Once management is committed to this it has strong motivation to demonstrate steady improvement. The existence of a series of figures demonstrating such a trend provides reassurance to users and, in combination with the downward pressure on prices in real terms resulting from price control, helps to generate public acceptance that the regime is seeking to promote consumer interests. All this can be observed working in the UK since BT agreed, under pressure from Oftel, to resume publishing quality of service statistics, as it had done as a nationalised industry.

The first essential, then, is to require or persuade the regulated company to publish regular statistics of performance indicators of greatest interest to users. Annex 3 shows the form in which BT (closely followed by Mercury) was publishing its key quality of service statistics in 1991. These consisted of precise statistics at the end of each six-month period with a graphical representation of variations in performance over the previous six months. The chosen parameters at that stage included:

- call success rate;
- network reliability;
- provision of service, in terms of time to provide, and completion by agreed date;
- fault repair, in terms of time to clear and percentage cleared within two working days;
- delay on directory enquiries service and operator services;
- public payphone serviceability; and
- installation and fault repair of private circuits.

There is room for debate on exactly what these indicators should be and how they should be calculated. These ones were chosen from the results of BT customer surveys. Subsequent consultation by Oftel on the regulation of quality of service under the Citizen's Charter legislation has not invalidated the choice of these indicators. Though the applicability of some measures may diminish with developments in service quality (for example, BT has subsequently stopped publicising call success rates, due to the very small number of calls that fail through network fault following completion of modernisation and full digitalisation of the BT network, though Oftel has continued to include these figures in the information section of its annual report.)

International Comparisons

The second instrument available to the regulator is international comparisons. The OECD has already done a lot of work in this area in relation to prices and it is not proposed to discuss in detail in this paper what such price comparisons should include. Suffice to say that extreme care needs to be taken that figures quoted as international comparisons are genuinely comparable and that they are statistically significant. The basket approach is recommended. Properly based, such comparisons provide the regulator with a frame of reference to compare prices and performance between different countries and, most interestingly, between similar countries. User reaction to published information of this sort puts pressure on the management of the regulated company to be able to demonstrate that the company's performance is up to, or better than, that of comparable network operators elsewhere. The management of aggressive network operators, aiming to take their company to a leading world position in telecommunications, gain from regular publication of such comparisons the benefit of a challenge and opportunity to show that they mean business.

Limited Liability

Finally, the most effective instrument available to the regulator to incentivise improved performance has turned out to be the introduction of limited liability in the provision of telecommunications services. In retrospect it seems remarkable how long telecommunications networks operated under statutory or other administrative arrangements which precluded their acceptance of consequential loss as a result of service failure. The argument regularly put forward was that, since the cost of the telecommunications service itself was comparatively small, it would be inappropriate for the provider of that service to bear any financial responsibility for the consequences for the user of service failure. It was argued that accepting such responsibility would expose users generally to financing potential losses (e.g. from a failure to conclude a major contract as a result of a failure to communicate by telephone) which would be out of all proportion to the cost of providing the basic service and the price at which it was provided. This was despite the fact that, in relation to other forms of commercial activity involving inexpensive services, the courts had shown themselves ready to apply the principles of proportionality in assigning responsibility for financial loss arising from failure of service. So the courts could have been expected to determine modest levels of compensation where the failure of a modestly priced service was concerned.

In the UK the regulatory response to this unsatisfactory state of affairs, which had been identified by Oftel at an early stage, and to public disquiet about the poor level of service that was obtained in 1987, was to secure the acceptance of limited liability for consequential loss and modest financial compensation for failure to provide service to guaranteed minimum levels. This has subsequently become a standard approach by utility regulators in the UK and elsewhere. In the UK the two key elements of telecommunications service which have been subject to this treatment in BT's Customer Guarantee Scheme since 1988 (and similar schemes by Mercury and other operators) have been the provision of new service and fault repair. BT makes fixed compensation payments to all users for each day that they do not receive service within narrowly specified time scales of the agreed date and time of service provision or time elapsed since the report of a network fault; and meets modest claims for consequential loss up to fixed financial limits.

The introduction of these arrangements had a swift and remarkably positive impact. Customers who received poor service gained speedy and automatic recompense and the opportunity to recoup a significant element of any consequential loss suffered as a result of the service lapse. Local management of the network operator had a clear incentive to plan new installations and fault repair operations systematically to meet demand as effectively as possible. Senior management obtained a ready means of comparison of the effectiveness of different local operations, in terms of the number of recorded compensation claims that had to be met. A form of internal competition was thus introduced into a large organisation which greatly helped to improve its performance. (France Telecom provided helpful advice

on similar internal control and competitive measures it had been using for some years to improve management performance.) The adoption of these measures by BT marked a turning point in its relations with its customers in the UK and in its actual and perceived performance. The strong improvement since made by BT in both performance and customer relations has been a key factor in its emergence in recent years as one of the best regarded of the utilities and large corporations in the UK, though previously it had been one of the least well regarded.

From the point of view of telecommunications regulatory information, the most striking aspect of such arrangements, based on the acceptance of limited liability, is the comparatively low informational demand they place on the regulator and operator. Initially, a telecommunications regulator seeking to introduce such a scheme will need information about the current level of performance of the network operator in order to assess whether an acceptable scheme would be practicable. An exceptionally poor level of network service performance may mean that the introduction of a customer guarantee scheme at levels that could be afforded by the operator would have rather little meaning for users. In that case attention would be most appropriately focused first on more basic regulatory means to raise service to performance towards acceptable levels. However, the benefits of limited liability are such that its postponement should not be lightly accepted. Once introduced, the information requirements of the regulator are limited to broad supervision to ensure that the scheme is generally working satisfactorily. When the scheme is well under way, an annual report on the number of compensation payments (in addition to the publication of quality service indicators as described above) may be enough. All other information can be regarded as essentially an internal matter for the operating company. Negotiations for compensation for bad service are matters between the company and its customers, except in rare cases when the regulator may need to review an individual complaint against the company by a customer.

Encouraging Competition

In the great majority of cases, in addition to regulation of the incumbent monopolist, the regulator will also be concerned at an early stage with encouraging the development of competing network operations. Almost universally this already applies to the development of mobile networks; and increasingly, as the benefits of competition in telecommunications become more apparent, it applies to the regulation of telecommunications networks more generally. Once the regulator is concerned with more than one network a new set of information requirements claim attention. It is no longer just a question of seeking to improve the performance and operational efficiency of a single network. Every issue has to be considered in terms of the requirements of the new market entrant or entrants as well as of the incumbent operator; and the informational requirements will reflect this concern.

Structuring the Market

The first issue with which the regulator needs to be concerned, either as a prime mover (e.g. with powers to issue licences) or in the role of adviser to the government or some other public authority which issues licences or other forms of network authorisation, is how the market should be structured. For this purpose, the regulator needs at least a general knowledge of the size of the market concerned and an understanding of its economics. The sort of questions the regulator will be examining are how much room is there likely to be for competitors in a particular sector of that market; what are the barriers to entry; are there economies of scale and, if so, how large are they; what are the costs that a new entrant will be likely to face?

Before competition becomes established in any market sector (particularly fixed long distance, fixed local or mobile sectors) there is likely to be considerable uncertainty about the costs that new entrants are likely to have to face; and about the impact of new market entry on the costs of the incumbent. The regulator is likely to have to think in terms of ranges of costs rather than precise estimates; and he will need to call on expert information from practical engineering, construction and

operational experience in the field, together with economic, accounting and statistical analysis. The regulator will need to take account not only of network construction and operation costs and the total impact of increasing the number of networks on the costs of providing services to customers; but will also need to consider the costs of supporting services, such as billing, management systems and marketing costs. He will need understanding, imagination and vision; and a feel for how competition may help to increase the size of the market.

Information to Competitors

It is not only the regulator who needs information to assess the prospects for effective competition and to facilitate and encourage its development in the early stages. New market entrants, or would-be market entrants, also need sufficient information to encourage them to invest in a new area of business and to enable them to plan their operations on an efficient basis. The necessary information may be surprisingly difficult to obtain in the early stages of the competitive regime where a defensive incumbent feels no obligation to provide information to assist its actual or potential competitors. Until network competition has developed to the point where the incumbent operator is no longer market dominant, it is inevitable that most of the traffic of competing networks will, at some stage, have to be transferred from or to the incumbent network. Yet even basic information such as the physical location of important parts of its network, with which competitors may feel it necessary to interconnect, may be withheld by the incumbent on grounds of security. The precise operational and financial basis on which interconnection with the incumbent's network may be available are likely to remain uncertain until difficult negotiations have been completed, with or without regulatory intervention. Details of the make-up of the costs underlying the incumbent operator's pricing of its connection are likely to be regarded by the incumbent as commercially confidential. Similar grounds may underlie hesitation in releasing information on number allocation, directory information and costing and operations of the handling of emergency calls.

As the history of these issues in the UK has shown, regulatory intervention may be necessary before a realistic balance is achieved between the essential requirements of new market entrants and the reasonable commercial and operational concerns of the incumbent operator. As a general rule, the greater the degree of market dominance of the incumbent operator, the greater the disclosure of information by the incumbent that the regulator will need to require. As competition becomes increasingly effective, the competitors will themselves become repositories of important information and will have their own operational experience on cost data to rely on. In any case, as competition develops the incumbent will become increasingly aware that its competitors are also its largest customers and is likely to develop an interest in achieving an effective resolution of the potential internal commercial conflict that this implies.

Anti-competitive Behaviour

As the ensuing competitive battle begins to develop, the regulator should be concerned to watch for signs of anti-competitive behaviour, particularly by the incumbent operator or any other operator which is able to achieve a position of market power. It is notoriously difficult to enumerate and codify all forms of anti-competitive behaviour which a market dominant entity may use to hinder the development of competition. In telecommunications, in addition to the classic forms of abuse of a dominant position, the subtleties of ways in which massive network dominance can be linked with otherwise beneficial forms of commercial activity to create an unmatchable advantage for the incumbent operator are considerable. It is the nature of that advantage that the regulator will need to assess most carefully. He will need to ask himself whether the advantage being created is unmatchable and, if so, why. In many cases, as always when aspects of market dominance are at issue, behaviour which in a new market entrant would be unexceptional, or viewed as positive, becomes unacceptable when pursued by a market dominant entity.

Separate Accounting

One important means adopted in the UK, and increasingly elsewhere, to ensure that competitors have a chance to enter the market against a hugely dominant and vertically integrated incumbent monopolist has been the requirement for separate accounting of parts of the incumbent's business. In the UK's case this approach was preferred to full business separation (e.g. between the supply of network services and customer premise equipment, as was required in the US) because of the disruption to customers that it was felt would result from full business separation. Initially in the UK separate accounting was applied to BT in respect of its supply of customer premise equipment, supplementary services using the network and the manufacture of equipment. Subsequently the principle of separate accounting has been applied to the network, access and retailing parts of BT's overall network operation, in the context of the interconnection arrangements with other networks. Where separate accounting is required, its effective supervision by the regulator requires at least the submission of comprehensive annual accounts for each separately accounting business to the regulator on an annual basis. This, in addition to information on prices, is one area where a specific ongoing regulatory requirement to provide information on a comprehensive and detailed basis is likely to be fully justified.

Developing the Market

As effective competition develops, the information requirements of the regulator will change from information necessary to inform action aimed at creating and encouraging competition towards information primarily concerned with the supervision of developing competition and the assessment of where hopefully infrequent regulatory intervention may be necessary to reinforce market development and guard against potential market failure.

Market Shares

The regulator will be particularly concerned with tracking the development of market shares. Provided competition is developing successfully, his main concern is likely to be with the overall trend. While this trend shows diminishing market dominance on the part of the incumbent and the growth of a reasonable spread of competition, the regulator is likely to be generally satisfied with rather broad assessments. Where precise estimates of market share are necessary, in order to base specific regulatory action (e.g. in relation to the UK competition legislation definition of monopoly at 25 per cent of the relevant market), the regulator may have more difficulty, since definition of market share in these circumstances is inevitably controversial. A precise definition of the relevant market is essential in order to ensure that all available information on the relevant turnover of suppliers in the market can be properly evaluated.

Market Segmentation

Another growing concern will be with segmentation of the market. The tendency of markets to segment is normally a healthy sign. It generally shows that artificial constraints on the freedom of competitors to buy and sell most efficiently are breaking down and it is normally accompanied by demonstrable signs of improved efficiency. For example, in the UK the segmentation of different elements of the network transmission market into wayleaves, ducts, cables, circuits and transmission capacity has already begun to have a discernibly favourable impact in terms of the more effective availability of capacity to users and greater efficiency in its provision.

Increasing sophistication in the degree of segmentation that telecommunications services suppliers apply to the market that they are addressing is likely to be another feature of increasing competition. This is already a notable characteristic of the US telecommunications market; and moves in this direction can be discerned in the UK. The process involves the identification of differing

requirements among the groupings of customers in different sectors of the telecommunications market and the development and marketing of services accordingly. A regulator concerned with the development of competition will wish to observe this process carefully and, where appropriate, take advantage of it to check that market developments are not unreasonably disadvantaging supposed vulnerable groups, such as those in areas of urban deprivation, people without established homes, those in remote areas, disabled and elderly people, and so on. Increasing sophistication of the analysis of the telecommunications market should enable the regulator to target areas for regulatory intervention (for example in encouraging technical and financial provision for full access to the network by profoundly deaf people) with greater precision and effectiveness.

Information to Customers

The effective development of any market depends on sufficient information being available to customers for them to make informed decisions and exercise reasonable choice. The regulator, in conditions of growing competition, will need to keep a careful eye on this aspect, particularly in circumstances where the absence of adequate customer information may unduly protect the position of dominant operators. He will wish to ensure that requirements to provide basic information essential for consumer protection, such as clear prices and terms and conditions of service, are fully met; and he may find it necessary to take the lead in encouraging supplier and user interests to develop agreed bases for the presentation by different operators of quality of service information, so that users may make meaningful comparisons. For example, Oftel has recently been active in pursuing this approach in the UK.

But, as competition develops, the regulator is likely to find increasing support from the media in meeting the need for accessible and easily understood information to users about the services on offer and how they may be compared. For example, despite the complexities of 13 different cellular tariffs which followed the entry into the cellular market in the UK of two new PCN operators, the competitive battle that developed stimulated a huge increase in marketing expenditure by the cellular operators and, in turn, close attention by the media. A host of newspaper and magazine articles commenting on the different cellular offerings found simple means of presenting price and service differentials between mobile operators, and rapidly educated the growing number of people interested in mobile services in what to look for in terms of price and service levels.

Information to Market Intermediaries

A further feature of healthily developing markets is the creation of new varieties of market intermediary between different levels and types of suppliers and between suppliers and customers. The regulator will need to be responsive to ensuring that the information needs of these intermediaries are met, just as much as those of network operators, service providers or equipment suppliers. On some analyses it is these intermediaries who will in future command the lion's share of the market, operating as communication companies providing wide portfolios of services across many networks. It is noteworthy that the information and other requirements of these emerging groupings are receiving increasing attention, for example, in the UK.

CHAPTER 3 -- SOURCES OF INFORMATION

To meet this wide range of requirements for information, which change as the regulatory process changes and the market develops, the regulator has a wide choice of sources of information to turn to in different circumstances.

Regulated Monopoly

By far the most important source of information for the regulator, on a day-to-day basis and in respect of many of the large issues, will be the regulated monopoly itself. The incumbent monopolist will have the greatest expertise and experience of the practice of telecommunications, at least in its technical and operational aspects, of all participants in the industry for a considerable period until alternative expertise can be developed or imported from elsewhere. The relationship that the regulator develops with the incumbent over the provision of information will have a major impact on the effectiveness of regulation. It is important to develop a professional relationship based on mutual trust and respect, although it is unrealistic to expect a regulated company to provide information to its own disadvantage, without a formal requirement to do so. In general, it is good practice to minimise demands for information wherever possible and, in particular, to restrict regular routine information requirements to essential items only and to avoid overloading the regime, and the regulated company or companies in particular, with heavy bureaucratic demands for information which subsequently sits on file without being actively used. On the other hand, it is argued that a requirement for the regular provision of specified information is a way to counteract some of the classic obstructive tactics of incumbent monopolies when asked for information. These include: arguing that the information requested is not collected or available (which is often true, even though one would have expected such information to be routinely available in a non-monopoly business); producing super-abundant information to drown the investigator in complex data; producing the required information slowly or delaying it until the last moment; or claiming that particular information is misleading within the overall picture. The specification in regulations of the information to be provided on a regular basis does not appear to be a complete answer to these points; the requirements should still be limited to what is seen to be essential and they will almost certainly change over time. It should, however, be normal practice, where the regulated monopoly publishes information, for example on prices or terms and conditions of service, to customers for the same information to be sent to the regulator.

One issue that will face the regulator from an early stage is the form in which information should be required from regulated companies. Should the regulator decide the form of the information, for example the accounting conventions to be used in accounting for regulated commercial telecommunications activities, or should the companies be left to decide the form for themselves? How far should the regulator insist on exact comparability and consistency between different companies? In deciding these issues the regulator will need to bear in mind the interests of users and investors in being able to make sensible comparisons between different companies. At the same time it is important to avoid, so far as possible, imposing a straightjacket on the way that managements look at their businesses or to impose unreasonable extra burdens on keeping accounts in a number of different ways. The most important elements the regulator will need to look for in the provision of accounting information by companies with a strong market position is the application of best accounting practices consistently

applied across the business as a whole and consistently applied over time. In conditions of emerging competition, these principles are more important than precise comparability in accounting treatment by different companies.

In some quarters it is argued that fully effective regulation of regulated utilities is impossible unless it is based on current cost accounting conventions. There is a lot to be said for this argument in terms of obtaining a realistic view of many businesses, particularly those with high fixed costs. Certainly the current cost view is one of the accounting "snapshots" that an effectively run business should be taking into account; and the regulator of telecommunications companies will want to make use of the concept of "modern equivalent assets" when assessing the current value of telecommunications installations which may be being overtaken by new technology. On the other hand, current cost accounting is not popular with financial institutions who have difficulty with the uncertainties of many of the assumptions that have to be made. The regulator may well conclude, as happened in the UK, that it would be unsatisfactory for a regulated company, particularly the incumbent monopolist, to report to its shareholders on a different basis to that on which it was reporting to the regulator. In which case the basis of such accounting is likely to remain the historic cost accounting convention.

However, when it comes to statistics on performance, the need for users to be able to make a sensible comparison between companies is of paramount importance and it may well be necessary for the regulator to intervene to ensure that this is possible. Even then, it is strongly to be preferred that the basis for comparison should be the result of agreement within the industry, among suppliers and users, as to the preferred form of basic comparison. Without such agreement, action by the regulator may impose distortions on practice in the industry, the disadvantages of which more than offset the informational gains to users.

Other Regulated Companies

Information demands on companies other than the incumbent, unless they themselves are in the position of some market dominance, should be kept to a minimum. The regulator should resist any urge to know everything that is going on unless there are demonstrably good reasons for doing so. Generally, the regulator will need to have a good overall grasp of the ways in which the market is developing and may feel it necessary to require some further detail than companies other than the market dominant incumbent wish to put into the public domain. Such demands will put extra burdens on companies that are fully stretched to enter the market effectively; and the regulator should be sure that there are good reasons for imposing such burdens. Normally the regulator will only wish to go down this path where a particular problem appears to require regulatory involvement and therefore knowledge of the circumstances from all sides.

One such case occurred in the UK when, in the face of widespread user dissatisfaction with analogue cellular service levels, the regulator became involved with the two (jointly market dominant) analogue cellular operators for a limited period in the production and publication of drive around surveys to assess and compare the service levels from the users' point of view. This produced both a stimulus to the industry to improve performance and reassurance to users about what the objectively judged levels of service actually were.

Competitors

After the regulated incumbent, information from its competitors is likely to be the most important source that is available to assist the regulator in facilitating the development of the market. Competitors are unlikely to be reticent where they see their interests threatened by the incumbent and they are likely in practice to provide a constant barrage of criticism and information about how the competitive

regime is developing in practice. Much of the regulator's routine business will consist of the investigation of issues raised by competitors who feel that their entry into the market is being unduly hindered in a wide variety of ways. In assessing how justifiable these complaints are, and what action should be taken about them, the regulator will in practice need to look to competitors and new market entrants for much of the information on which to base his enquiries. Though it will of course be necessary to investigate thoroughly the views of other parties, including especially the incumbent monopolist.

One problem that the regulator may have is what to do about the provision of information by competitors on a confidential basis. Particularly during the early stages of a competitive regime, competitors may wish to put views and information to the regulator on a confidential basis, because they do not wish to antagonise relations with the incumbent monopolist, or others, by making their allegations public, or because they are unable to obtain supporting evidence on a formal basis. In such circumstances the regulator is well advised to listen carefully to the points which interested parties wish to put to him and to be ready to treat these on a confidential basis. It is better for a regulator to know what is alleged to be going on than that he should remain in ignorance of it. However, it will be necessary for the regulator to make clear that formal regulatory action is only possible where supporting information can be obtained which would enable decisions to be taken by the regulator on a basis that would withstand legal challenge.

Customers

Information gathered from customers will also play an immensely important part in the regulatory process. Indeed, since it is the interests of customers that the regulator is ultimately most concerned with, he will wish to make the final impact on customers the touchstone of almost all regulatory decisions.

Customer complaints about service shortcomings, or failure of the regulatory regime to ensure that their needs are adequately met, will, where the regulator has a complaint investigation role, form a major input into the regulatory organisation and the regulator's thinking on the development of the regime. They will provide an invaluable source of information about the problems that are creating most concern to users, and an excellent means of deciding priorities for regulatory action. For example, in the UK, a regulatory requirement on BT to provide itemised billing, free of charge, as soon as possible after the conversion of exchange equipment to digital operation, resulted from the predominance of complaints about disputed bills among the hard cases seen by Oftel. The completion of that programme virtually eliminated this kind of complaint, indicating a major advance in overall quality of service. Regulatory initiatives in the UK on fault repair, provision of service, callbox serviceability and premium rate services all owed much to experience of complaints. In fact, if he has access to the most difficult classes of complaints, the regulator should soon develop a remarkably good feel for the overall quality of the business he is regulating.

The regulator may also need on occasion to look to information from customers to validate, or otherwise, allegations made by competitors about anti-competitive behaviour by the incumbent operator. This may not be popular with the customers concerned; and may involve the exercise of statutory powers to require the provision of information by unwilling parties. For example, where it is alleged, on the basis of information gained in the market, that the incumbent operator is giving favourable terms to a customer, outside its normal tariff, in a way that competitors cannot match, it may be necessary to use formal statutory powers to obtain confirmatory information from the customer concerned, even though in providing such information the customer may risk a decision which deprives him of the price benefit he has obtained. If this does happen, it will be little consolation to the customer concerned that this action is aimed at safeguarding the growth of competition from which all customers will benefit. This is but one small example of the importance of moving as quickly as possible through the transitional stages of regulated market entry to the point where the benefits of competition have become plain for all to see.

The regulator will also require information on a more general basis about the development of the market and customer reaction. He may wish to commission surveys by professional survey organisations. These may comprise tailor-made surveys of particular parts of the market to assess the current factual position in some detail. Or they may consist of attitudinal or other questions relating to telecommunications in mass opinion surveys. The regulator may also wish to organise direct surveys of consumer experience from consumer panels and advisory committees and other organisations linked with the regulatory process. For example, in the UK it has on occasion proved possible to obtain a residential consumer sample in excess of three thousand by this means. Such surveys, which involve the active participation of consumer interests formally linked with the regulatory body, provide a helpful means, with limited statistical significance, of seeing how consumer experience on the ground compares with reported levels of service quality. Wide variations may suggest the need to review the incumbent monopolist's data gathering and recording procedures (though in the UK such parallel evidence has suggested that the published quality of service statistics are well based and accurate).

Expert Advisers

Another important source of information are expert advisers with varying professional expertise in areas of interest to the regulator, who collectively have a width and depth of expertise that it would not be practical for the permanent staff of the regulatory body to match. In the technical area particularly, where a wide-ranging spread of scarce skills needs to be catered for, it is likely to be necessary for the regulatory body to maintain the availability of such expert advisers on an occasional basis as required. Economics, accounting and statistical advice, as well as legal, administrative and financial expertise, and a variety of other expertise, may also be helpfully provided on a part-time retained or occasional basis. The deft deployment of such capabilities should enable the regulator to match the level of expertise available to all other protagonists in the field, particularly the incumbent monopolist. This is important since in the evaluation of the information available to him, and the decisions made upon it, the regulator needs to carry authority throughout the sector.

Auditors

A further source of professionally well informed and well based information, which should not be overlooked, is the auditors of the regulated monopoly. They are likely to have unrivalled knowledge of the incumbent's accounts, as well as an excellent inside knowledge of the business. In many cases they are also likely to have been a source of important advice to the incumbent, particularly in the case of a monopoly utility that is having to face the introduction of commercial standard management accounts for the first time. In the case of telecommunications, this is a particularly painful and expensive process because the high proportion of shared or common costs means that special care has to be taken in applying principles of commercial cost allocation. The basis on which this is carried out, and the detailed accounting numbers involved, are certain to be of great interest to the regulator in carrying out a number of key regulatory tasks, including price control, interconnection pricing adjudications and the investigation of allegations of anti-competitive behaviour. The incumbent's auditors will be uniquely qualified to assist in the provision of professionally independent and objective information in such cases; or at least to provide independent professional confirmation of the figures provided by the incumbent to the regulator.

The problem, of course, is that the auditors are employed by the incumbent. However, if required by the regulator to provide a professional assessment, the company's auditors will, in the UK at least, owe a duty of care to the regulator to ensure the accuracy of the views and information provided. This is a serious and legally enforceable obligation. There may, therefore, be occasions where a formal request to the auditors to provide a certificate to the regulator may provide a useful form of assurance, where this is needed, on sensitive accounting matters. Though the frequent resort to this approach will be

likely to create unacceptable strains in the relationship between auditor and client, and it therefore needs to be used sparingly and with due discrimination only where special circumstances justify it.

Consultants

On most major issues the regulator is likely to find it necessary to engage professional consultants to investigate the field he wishes to consider in some depth. This particularly applies where the scale of the investigation involved is well beyond the capacity of the permanent staff of the regulatory body, or where a fresh objective evaluation of a particular situation is needed, drawing on the experience and skills of the consultants concerned. The role of the consultants in providing advice on key regulatory developments almost always involves an extensive information gathering and analysis exercise. In some cases, for example where market surveys are commissioned, the gathering of information is the main purpose of the exercise itself.

The results of consultancy studies are best where there has been the fullest co-operation from all involved in providing information. This can be expected to give rise to little difficulty in the cases of competitors or customers who stand to gain from the outcome of studies concerned with the development of the regulatory regime. But it may be different when the issues being studied could have an adverse impact on the incumbent monopolist; or where the activities of other companies with market power are being investigated. In such cases, if information gathering powers are limited to the staff of the regulatory body, the work of the consultant can only be satisfactorily completed with the agreement of the regulated company concerned, usually on the basis of painstakingly agreed terms of reference. Although a way through such difficulty can usually be found, it can delay matters considerably. It is suggested that there is a good case for the regulator to have specific powers, subject to appropriate safeguards relating to authorisation, confidentiality, publication, etc., to appoint a team to investigate particular matters on his behalf with the regulator's powers to obtain information.

Powers

The regulator clearly needs comprehensive powers to obtain information on all relevant matters from all parties involved. This means that very wide powers for gathering information are needed.

Annex 1 (iii) sets out the powers that the Director General has in the UK to obtain information in carrying out his functions relating, amongst other things, to his responsibility for licence compliance enforcement and the investigation of complaints. It is noteworthy that the powers relate to all persons and are backed by strong sanctions, though exercise of the power is limited to information that could be required in a court.

Annex 2 sets out BT's obligation to provide information to the Director General in response to reasonable requests for information necessary for the exercise of his functions, including the function of advising the government set out at Annex 1 (i). Also specifically mentioned is the requirement to provide accounting information in the form of BT's annual financial results by service statement (FRBS, which the Director General published in his price control review consultative document in 1992).

Armed with such powers, the regulator should have little difficulty, in practice, in obtaining information where he needs it. However, as can be seen, the UK legislation does not include a specific power to put in an investigating team as suggested at paragraph 54 above.

CHAPTER 4 -- DISSEMINATING INFORMATION

Regulator

In addition to acting on information obtained in support of regulatory decisions, the regulator will also need to be involved in the process of disseminating information. The purpose here is to ensure that everyone concerned understands what the regulator is doing and why the regulator is doing it, and is also fully aware of the development of the market, improved operator performance and widening consumer choice. One of the main benefits of independent regulation is the transparency it brings to regulatory decision making. The dissemination of information by the regulator is a key element in that transparency, and one that can and should be used to promote the regulatory process and its objectives.

The regulator is likely to have a number of means of publishing such information. Chief among these is the regulator's annual report, the document of record of his activities, which provides an opportunity for publicising the activities of the regulatory body, drawing attention to regulatory developments and the reasons for regulatory decisions and providing information about the development of the market on an annual basis. Annex 4 lists the statistical information that was included in tabular form in the Oftel 1993 Annual Report, and shows the wide range of information that the regulator felt it useful to put into the public domain and on record in this way.

The publication of consultative documents on key regulatory issues which are under consideration provides a further opportunity for in-depth analysis and the publication of information to all who are concerned with decisions that are under consideration. Annex 5 lists the Oftel publication for 1993, which included four major consultative documents: a range of information publications for consumers; documents relating to competition, licensing and technical matters; newsletters, including Oftel News, which has a circulation of nearly 20 000, and statistical notes on international comparison of telephone charges and monitoring the telephone bill of a "typical" residential customer. This gives an idea of the range of information publications which a regulator of a rapidly developing competitive market felt it useful and necessary to publish in carrying out his remit.

In addition to written publications, the regulator will wish to use other media, including television and radio appearances, and possibly video, together with parliamentary appearances, press briefings and speaking engagements by himself and his staff before selected audiences to engage in public debate, influence informed opinion, publicise, inform and educate. A gift for publicity and communication can be invaluable attributes in the regulator's public role.

Powers

Comprehensive powers to publish information are a necessary part of the regulator's equipment. Annex 1 (ii) sets out the powers of the Director General in the UK to publish information and advice for the benefit of telecommunications consumers, purchasers and other users, subject to avoiding, so far as possible, the publication of information that would be damaging to individuals or businesses. This is fine so far as it goes, but it makes no mention of publication of information for the benefit of competitors. Since one of the main regulatory objectives is the encouragement of competition, there may well be occasions when the regulator wishes to publish information for this purpose. Under the UK legislation he has no powers to do so. In practice it may be possible to publish information for the benefit of users which

may incidentally be useful to competitors (Sir Bryan Carsberg published BT's FRBS (management accounts summary) in 1992 because he felt that it gave assurance to users about his prospective price control decisions). But this hardly appears satisfactory and seems a weakness in the legislation. There is perhaps a good case, at least in circumstances of strong market dominance, to extend the powers of publication to embrace information for competitors, subject to safeguards relating to the degree of exposure that this might impose on the regulated monopolist.

Safeguards

Sensitive information, of a personal or commercial nature, which has come into the hands of the regulatory organisation clearly needs to be safeguarded. Annex 1 (iv) sets out the general restrictions on disclosure of such information obtained by the regulator. With certain clearly defined exceptions, relating to the exercise of the regulator's own powers of publication and the exercise of similar powers by other regulatory bodies, disclosure may only be made by agreement with the person or persons to which the information relates. It is noteworthy that the penalties for breach of these restrictions are draconian; rather greater in fact than those under the Official Secrets Act.

In practice, these safeguards impose on the regulator the task of deciding how heavily matters of personal privacy or commercial confidentiality should weigh in deciding whether or not to publish information. He is likely to seek to protect personal privacy wherever possible. Commercial confidentiality is likely to be of most crucial importance where the business concerned is vulnerable in the market. In the case of strongly market dominant entities, the regulator may need more persuading that publication would cause real harm. Generally speaking, the greater the degree of market dominance, the heavier the reasons for publication are likely to weigh.

Regulated Monopoly

The organisation with by far the biggest capability of disseminating information will be the regulated monopoly. It is in regular touch with all its customers when it sends them their bills and this provides opportunities for the provision of further information, though the arrival of the bill is not necessarily the best moment to attempt to get across other information messages. Telephone directories are also a potentially useful vehicle for carrying further information and, in the UK, BT prints its customer code of practice at the back of the directory. The regulated incumbent will also be in a position to finance extensive marketing, publicity and information programmes. The regulator will wish to see such opportunities used positively. For example, Annex 6 lists the service guides that BT publishes for the benefit of consumers, and shows how seriously BT takes the task of making available to users extensive advice on the services available to them.

The regulator may find the publication power of the regulated monopoly a mixed blessing if it is used to distribute propaganda and support lobbying critical of the regulatory regime. However, privatisation removes from the incumbent the moral authority that went with public sector status and made the nationalised industries such dangerous publicity opponents. Users have higher expectations of service delivery from a private sector company, but are suspicious and critical of its commercial objectives. In these circumstances, efforts to push views that are not fully based on user interest may backfire.

Other Regulated Companies

Other regulated companies, indeed all companies operating in the market, are potential sources for the dissemination of information. Minimum requirements to observe the companies legislation, in terms of publication of accounts, the commercial requirements of publicising the progress of companies operating in a new market area, and the marketing of the services themselves all contribute to a general process of customer information and education throughout the sector. But the most potent impact is perhaps the atmosphere of excitement that is generated in a rapidly developing competitive market and the interest this generates in the telecommunications sector.

Information Intermediaries

When deciding how much information the regulatory organisation should publish itself, the regulator will need to bear in mind the importance of encouraging the development of information intermediaries increasingly to take on the task of providing the necessary flow of information in a market economy. In the early stages, with only one dominant operator and possibly a few small market entrants, the scope for operations by information intermediaries is small, and their appearance is likely to be slow.

However, once competition begins to develop seriously, all sorts of interests become involved in providing information. The more that users become directly affected by marketing activities and the interest generated by competing attempts to engage user attention, the more that all forms of media become increasingly concerned with telecommunications and its implications. One can see this happening in all countries where the telecommunications process has led to the introduction of competition even on a fairly limited scale. In the UK the regulator has a duty to encourage suppliers' associations to prepare and disseminate codes of practice to safeguard the interests of consumers (see **Annex 1 (ii)**).

CHAPTER 5 -- CONCLUSIONS

Obtaining, handling and disseminating information are integral and essential parts of the telecommunications regulatory process. The purposes for which information is required cover all aspects of regulation and the objectives involved in regulating monopoly operators, in encouraging the development of competition and in furthering the development of a full telecommunications market. It is not sufficient to regard the role of information in telecommunications regulation as little more than a process of requiring certain types of information to be provided on a regular and comprehensive basis as a means of properly informing regulatory decisions. The role of information goes much further than this. Ensuring the full and proper flow of information is a dynamic process which changes as the nature of the telecommunications market changes.

With the emergence and development of competition, the role of the regulator becomes increasingly one of facilitating and encouraging competition. In these circumstances the regulator ceases to be the main decision maker in developing the market and becomes increasingly a competition authority, supervising the market and ensuring that it works in a way that contributes to the flow of information needed. The regulator should therefore seek to ensure, well before the development of effective competition starts to take over his role, that arrangements are in place that will provide the right incentives for information to be readily available throughout the sector for users, competing operators and for supervisory decision-making in the telecommunications market as in any other.

"The spontaneous interaction of a number of individuals each [providing] only bits of knowledge, brings about a state of affairs ... which could be brought about by deliberate direction only by somebody who possesses the combined knowledge of all those individuals."
F.A. Hayek, 1937.

ANNEX 1

POWERS OF THE DIRECTOR GENERAL

i) General Functions [of the Director General] Section 47 of the Telecommunications Act 1984

It shall be the duty of the Director, so far as it appears to him practicable from time to time, to keep under review the carrying on both within and outside the United Kingdom of activities connected with telecommunications.

It shall also be the duty of the Director, so far as it appears to him practicable from time to time, to collect information with respect to commercial activities connected with telecommunications carried on in the United Kingdom, and the persons by whom they are carried on, with a view to his becoming aware of, and ascertaining the circumstances relating to, matters with respect to which his functions are exercisable.

The Secretary of State may give general directions indicating:

- (a) considerations to which the Director should have particular regard in determining the order of priority in which matters are to be brought under review in the performance of his duty under subsection (1) or (2) above; and
- (b) considerations to which, in cases where it appears to the Director that any of his functions are exercisable, he should have particular regard in determining whether to exercise those functions.

It shall be the duty of the Director, where either he considers it expedient or he is requested by the Secretary of State or the Director General of Fair Trading to do so, to give information, advice and assistance to the Secretary of State or that Director with respect to any matter in respect of which any function of the Director is exercisable.

ii) Publication of Information and Advice Section 48 of the Telecommunications Act 1984

The Director may arrange for the publication, in such form and in such manner as he may consider appropriate, of such information and advice as it may appear to him to be expedient to give to consumers, purchasers and other users of telecommunications services or telecommunication apparatus in the United Kingdom.

In arranging for the publication of any such information or advice, the Director shall have regard to the need for excluding, so far as that is practicable:

- (a) any matter which relates to the private affairs of an individual, where the publication of that matter would or might, in the opinion of the Director, seriously and prejudicially affect the interests of that individual; and

- (b) any matter which relates specifically to the affairs of a particular body of persons, whether corporate or unincorporate, where publication of that matter would or might, in the opinion of the Director, seriously and prejudicially affect the interests of that body.

Without prejudice to the exercise of his powers under subsection (1) of this section, it shall be the duty of the Director to encourage relevant associations to prepare, and to disseminate to their members, codes of practice for guidance in safeguarding and promoting the interests of consumers, purchasers and other users of telecommunication services or telecommunication apparatus in the United Kingdom.

In this section "relevant association" means any association (whether incorporated or not) whose membership consists wholly or mainly of persons engaged in the provision of telecommunication services or the supply of telecommunications apparatus or of persons employed by or representing persons so engaged and whose objects or activities include the promotion of the interests of persons so engaged.

iii) Power to require information etc.
Section 53 of the Telecommunications Act 1984

The Director may, for any relevant purpose, by notice in writing signed by him:

- (a) require any person to produce, at a time and place specified in the notice, to the Director or to any person appointed by him for the purpose, any documents which are specified or described in the notice and are in that person's custody or under his control; or
- (b) require any person carrying on any business to furnish to the Director such estimates, returns or other information as may be specified or described in the notice, and specify the time, the manner and the form in which any such estimates, returns or information are to be furnished;

but no person shall be compelled for any such purpose to produce any documents which he could not be compelled to produce in civil proceedings before the court or, in complying with any requirement for the furnishing of information, to give any information which he could not be compelled to give in evidence in such proceedings.

A person who refuses or, without reasonable excuse, fails to do anything duly required of him by a notice under subsection (1) above shall be guilty of an offence and liable on summary conviction to a fine not exceeding level 5 on the standard scale.

A person who:

- (a) intentionally alters, suppresses or destroys any document which he has been required by any such notice to produce; or
- (b) in furnishing any estimate, return or other information required of him under any such notice, makes any statement which he knows to be false in a material particular, or recklessly makes any statement which is false in a material particular,

shall be guilty of an offence.

A person guilty of an offence under subsection (3) above shall be liable:

- (a) on summary conviction, to a fine not exceeding the statutory maximum;
- (b) on conviction of indictment, to a fine.

If a person makes default in complying with a notice under subsection (1) of this section, the court may, on the application of the Director, make such order as the court thinks fit for requiring the default to be made good; and any such order may provide that all the costs or expenses of and incidental to the application shall be borne by the person in default or by any officers of a company or other association who are responsible for its default.

In this section:

- "the court" has the same meaning as in section 18 above;
- "relevant purpose" means any purpose connection with:
 - (a) the investigation of any offence under section 5, 28 or 29 above or any proceedings for any such offence; or
 - (b) the exercise of the Director's functions under section 16 or 49 above.

iv) General Restrictions on Disclosure of Information
Section 101 of the Telecommunications Act 1984

Subject to the following provisions of this section, no information with respect to any particular business which:

- (a) has been obtained under or by virtue of the provisions of this Act; and
- (b) relates to the private affairs of any individual or to any particular business,

shall during the lifetime of that individual or so long as that business continues to be carried on, be disclosed without the consent of that individual or the person for the time being carrying on that business.

Subsection (1) above does not apply to any disclosure of information which is made:

- (a) for the purpose of facilitating the performance of any functions assigned or transferred to the Secretary of State, the Director or the Commission by or under this Act;
- (b) for the purpose of facilitating the performance of any functions of any Minister, any Northern Ireland department, the head of any such department, the Director General of Fair Trading or a local weights and measures authority in Great Britain under any of the enactments specified in subsection (3) below;
- (c) in connection with the investigation of any criminal offence or for the purposes of any criminal proceedings;
- (d) for the purpose of any civil proceedings brought under or by virtue of this Act or any of the enactments specified in subsection (3) below; or
- (e) in pursuance of a Community obligation.

The enactments referred to in subsection (2) above are:

- (a) the Trade Descriptions Act 1968;
- (b) the 1973 Act;
- (c) the Consumer Credit Act 1974;
- (d) the Restrictive Trade Practices Act 1976;
- (e) the Resale Prices Act 1976;
- (f) the Estate Agents Act 1979; and
- (g) the 1980 Act.

Nothing in subsection (1) above shall be construed:

- (a) as limiting the matters which may be published under section 48 above or may be included in, or made public as part of, a report of the Director or of the Commission under this Act; or
- (b) as applying to any information which has been so published or has been made public as part of such a report.

Any person who discloses any information in contravention of this section shall be guilty of an offence and liable:

- (a) on summary conviction, to a fine not exceeding the statutory maximum;
- (b) on conviction or on indictment, to imprisonment for a term not exceeding two years or to a fine or to both.

ANNEX 2

OBLIGATIONS OF BT

Condition 52 of BT's Licence

Requirement to Furnish Information to the Director

52.1 The Licensee shall furnish to the Director, in such manner and at such times as the Director may request, such documents, accounts, estimates, returns or other information and procure and furnish to him such reports as he may reasonably require for the purpose of exercising the functions assigned or transferred to him by or under Parts II and III of the Act.

52.2 In making any such request the Director shall ensure that no undue burden is imposed on the Licensee in procuring and furnishing such information and, in particular, that the Licensee is not required to procure or furnish a report which would not normally be available to it unless the Director considers the particular report essential to enable him to exercise his functions.

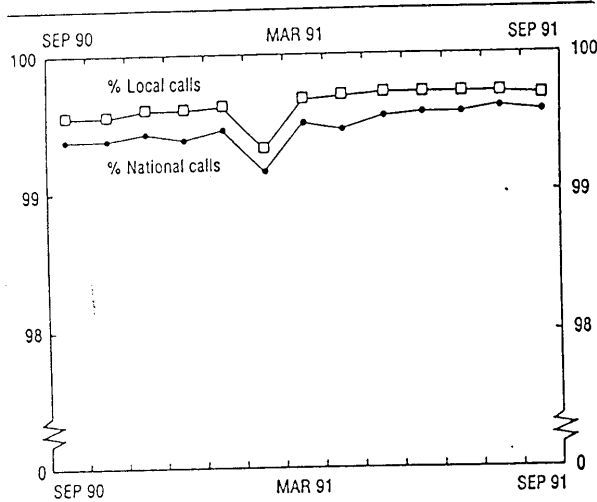
52.3 Without prejudice to the generality of paragraph 52.1, the Licensee shall furnish to the Director within 6 months of its financial year end, an FRBS statement which, unless otherwise agreed by the Director, shall be in a form substantially similar to that previously supplied to the Director. For the FRBS statement in respect of the financial year ending on 31 March 92 and thereafter the Licensee shall procure a report by the Licensee's auditor stating whether in his opinion the methods of allocation of costs, assets and liabilities are reasonable and whether the statement has been properly prepared applying those methods and is adequate for the purposes specified in paragraph 52.4 and Condition 13.5A.

52.4 In this Condition "FRBS statement" means an accounting statement the purposes of which are to set out and fairly present the cost (including capital costs), revenue and financial position of the Licensee's services including a reasonable assessment of the assets employed in and liabilities attributable to those services. The level of disaggregation as between services specified in, and in relation to the financial information contained in, the statement shall be substantially similar to that contained in the figures supplied to the Director for the financial year ended 31 March 1990 or such other level as the Licensee and the Director may agree from time to time.

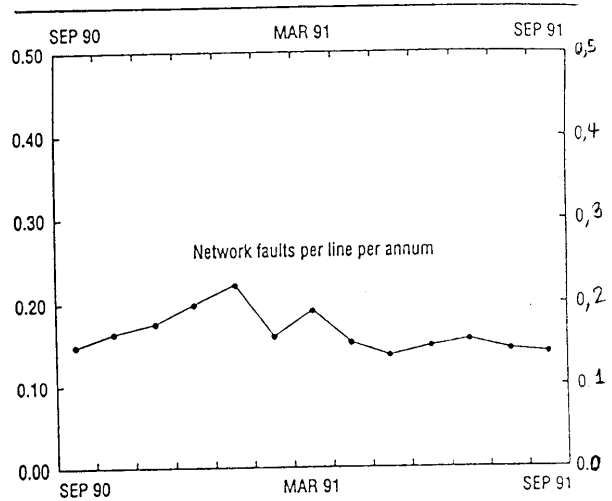
ANNEX 3 QUALITY OF SERVICE INFORMATION

Graphical presentation in BT's Quality of Service Report, April 1991- September 1991

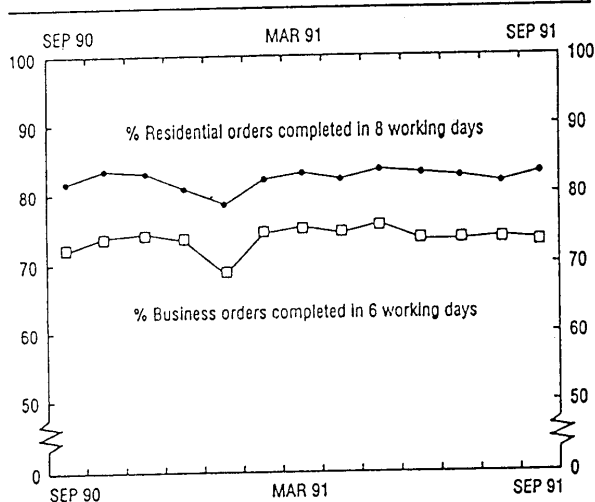
Call Success Rate



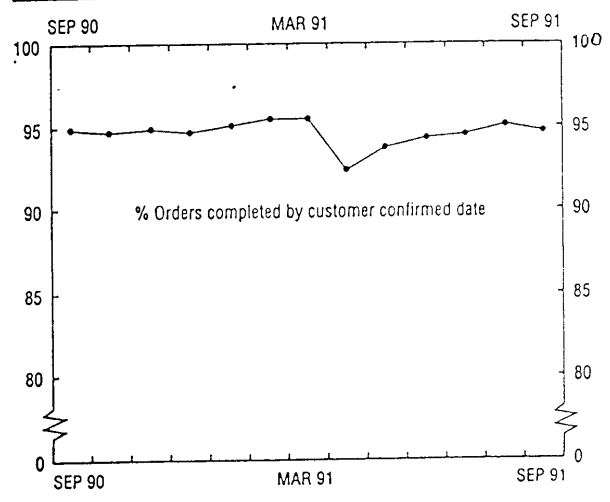
Network Reliability



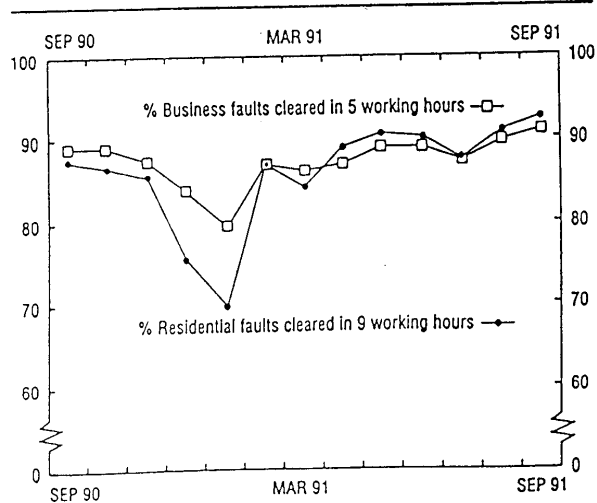
Provision of Service



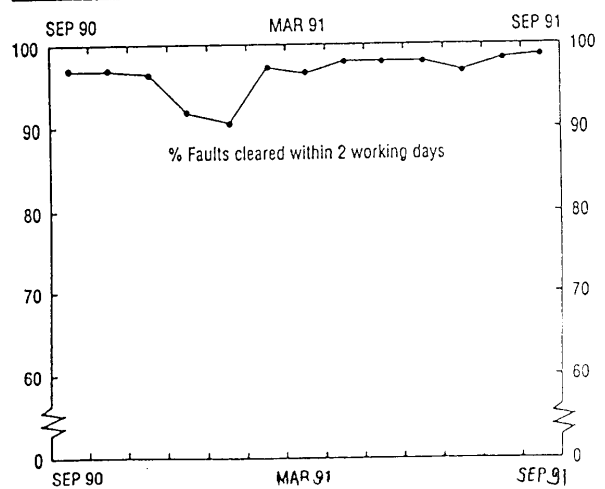
Provision of Service



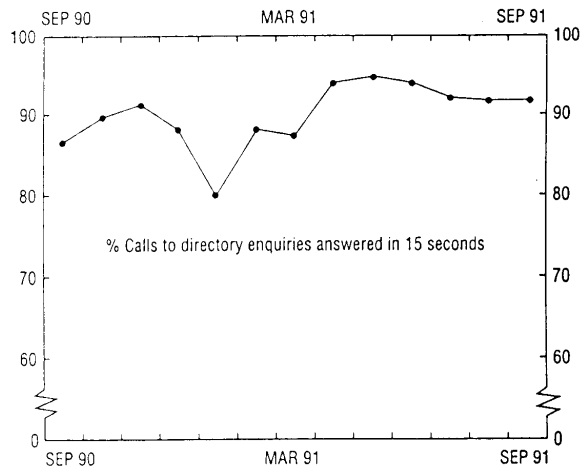
Telephone Repair Service



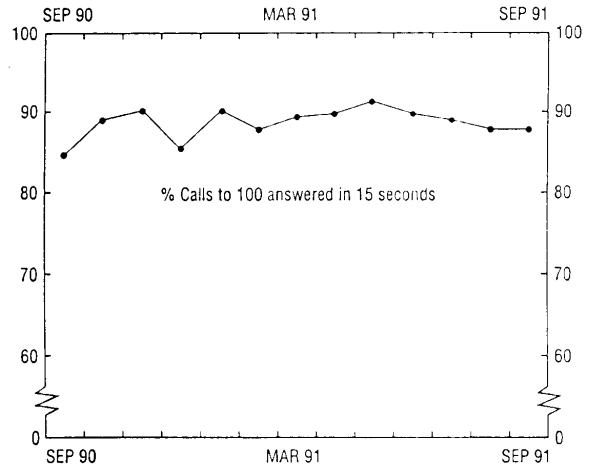
Telephone Repair Service



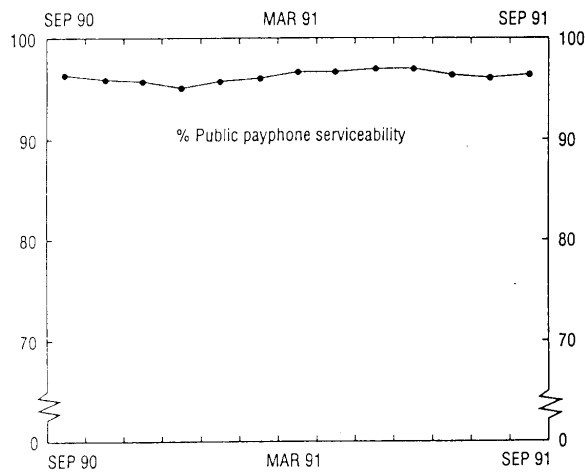
Directory Enquiries Service



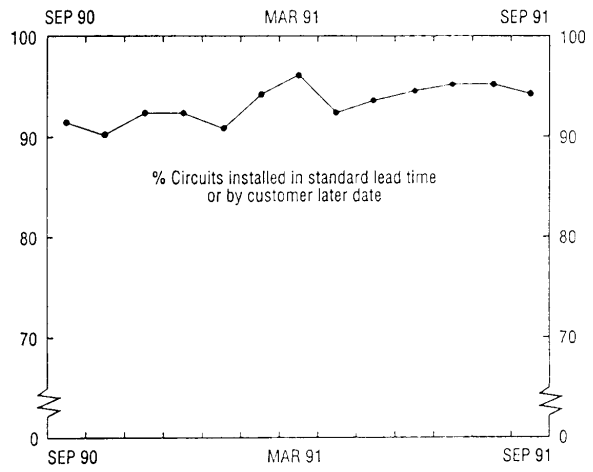
Operator Services



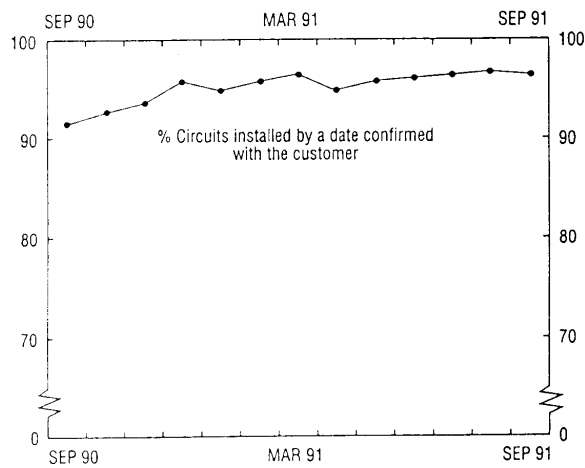
Public Payphone Service



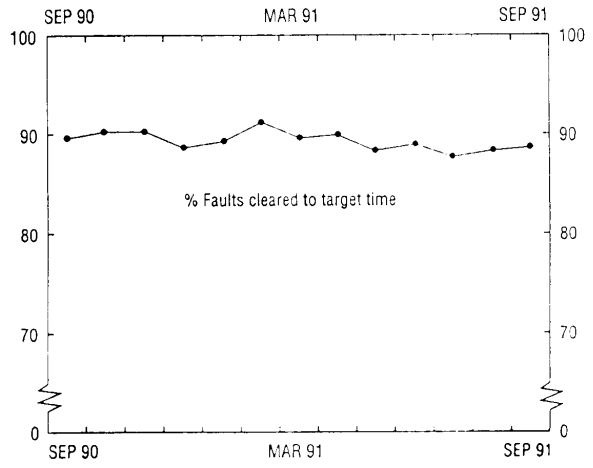
Private Circuits



Private Circuits



Private Circuits



ANNEX 4

STATISTICAL INFORMATION IN OFTEL 1993 ANNUAL REPORT

1. Main Report

Annual percentage change in the Retail Prices Index for all items and the telephone costs components (BT) in the UK (1980-1 to 1993-4)

Summary of BT price changes controlled by Conditions 24, 24A and 24C of its licence (Nov. 1984 to Dec. 1993)

Summary of BT private circuit price changes controlled by Conditions 24A and 24B of its licence (1989/90 to 1993/94)

Estimated number of cellular radio subscribers in the UK (Dec. 1985 to Dec. 1993)

Estimated number of wide area radio pagers in use in the UK (1980 to 1993)

Consumer representations received by Oftel and the English Advisory Committee on Telecommunications (ENACT) (1985 to 1993)

Breakdown of the consumer representations received by Oftel and ENACT (1992 and 1993)

Representations to Oftel about PTO licensing issues and representations in more specialist areas (1992 and 1993)

Availability of itemised billing to BT's customers (1989 to 1993)

Cellular drive-round survey. Mobile to fixed network calls (percentages)

Cellular drive-round survey. Fixed network to mobile calls (percentages)

Oftel statement of accounts

Oftel's information activities

Percentage of people who have heard of Oftel (1985-1993, Great Britain)

2. Advisory Committees Reports

Summary of representations received by the Northern Ireland Advisory Committee on Telecommunications (NIACT) (1992 and 1993)

Summary of representations received by the Scottish Advisory Committee on Telecommunications (SACOT) (1992 and 1993)

Summary of representations received by the Welsh Advisory Committee on Telecommunications (WACT) (1992 and 1993)

3. Background Statistics

1. Telephone Penetration Rates

Percentage of households with a telephone (1972, 1980-1992 Great Britain)

2. BT's Exchange Connections and Calls

BT's exchange connections in service by type of subscriber (1980-1993 United Kingdom)

BT's public and private rented payphones in service (1980-1984, 1986-1993 United Kingdom)

The number, and annual percentage growth, of effective BT telephone calls by type (1980-1993 United Kingdom)

3. BT's Quality of Service Figures

Network reliability (1983-1993)

Fault repair service (1983-1993)

Operator service and directory enquiries (1983-1993)

4. Mercury's Quality of Service

Availability of service (1987-1993)

Incidence of faults and service restoration time (1988-1993)

Directory enquiries service (1989-1993)

Provision of service (1990-1993)

Payphones (1991-1993)

5. *Telex and Facsimile Services*

Number of telex exchange connections (BT only) (1980-1993 United Kingdom)

Estimated numbers of facsimile terminals (1986-1993 United Kingdom)

6. *Telegraph and Telecommunications Equipment Industry Data*

Proportion of new PABXs and key systems supplied by BT (based on number of extension lines supplied) by size of system (1980-1992)

Proportion of new telephones and telephone answering machines supplied by BT (ex manufacturers' deliveries) (1984-1992)

7. *Mercury Growth Statistics*

Mercury capital investment and network growth (1984-1993)

Mercury traffic volume (1987-1993)

Ordered PSTN lines by type of Mercury service (1987-1993)

Mercury payphones (1989-1993)

ANNEX 5
OFTEL PUBLICATIONS IN 1993

Consultative documents

Interconnection and Accounting Separation

Numbering: Choices for the Future

The Operation of BT's Signatory Affairs Office and Competition in the Satellite Services Sector

Calling Line Identification

Consumer

Results of the Cellular Telephone Drive-round Survey *Statements on each of the three sets of results*

A Basic Guide to Data Communications

Access to the Telephone - a right or a luxury? *issued on behalf of DIEL*

The National Code Change

A Day to Renumber

Presenting Your Number

PhONEday - Equipment Guide

Annual Reports of the six Advisory Committees on Telecommunications *Full versions of the six reports in Part 3 of this report are each published separately*

Telephone Service in 1993 *Report*

OFTEL Library and the Public Registers

Competition

UK Standard Interconnection Charges - Proceedings of a Workshop held on 11 October 1993

The Relationship between Costs and Interconnection Charges - Proceedings of a meeting held on 6 December 1993

Cost-Benefit Analysis of Number Portability (restricted circulation)

Cost-Benefit Analysis of Equal Access (restricted circulation)

Network Interfaces Co-ordination Committee *Statement*

BT/Mercury Interconnection Determination: Interconnection charges and explanatory document (price £10)

Licensing

Future Controls on BT's Private Circuit Prices *Statement*

Review of the 999 Emergency Service Report

BT's July 1993 Price Changes *Statement*

999 Call Handling *Statement*

Guidelines to the residential low user scheme (see paragraph 2.73)

Technical

Approval of PTO Meter Systems *Third report by the Director of BABT*

Amendment to call barring requirements for customer premises equipment: General Variation NS/V/1235/P/100021 Update SA60

Sale and advertisement of modems Update SA61

Increased competition in assessment arrangements for installers and maintainers wishing to provide connection services for call routing apparatus Update SA62

General variation of conditions in approval of call routing apparatus to allow the connection of two or more PSTN exchange lines Update SA63

Approval of broadcasting apparatus Update SA64

Quality Assessment Guide for certification bodies applying ISO 9002:1987 (BS 5750: 1987) for the registration of (i) installers for installing and commissioning and connecting call routing apparatus; and (ii) maintainers for inspecting and connecting installed call routing apparatus QAG/2

Newsletters

OFTEL News

Newsline *sent to all Advisory Committee members*

BusinessLine *sent to those with an interest in small businesses on behalf of BACT*

Statistical Notes

International comparisons of telephone charges *Statistical Note no 1*

Monitoring the telephone bill of a 'typical' residential customer *Statistical Note no 2*

Source: Oftel 1993 Annual Report

ANNEX 6

BT'S SERVICE GUIDES

Protected Services Scheme

To help customers who would be at risk without a telephone

Customer Service Guarantee Scheme

Explains how BT will recompense customers if it lets them down

Special Help for People who are Older or Disabled

Explains the services and equipment available

Malicious Calls

To help customers deal with this problem

Your Account Explained

Tells customers how BT charges for telephone service

Complaints about our Service

How to complain

Our Credit and Deposit Policy

Outlines the policy

Light User Scheme

For customers who need a phone but make few calls

Free Priority Fault Repair

For customers whose phones are a lifeline

Information and Entertainment Services

Provides information about these more expensive services

During 1995 BT also intends to publish:

Protecting Your Privacy

Source: BT