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Working Party on Telecommunication and Information Services Policies

A REVIEW OF MARKET OPENNESS AND TRADE IN TELECOMMUNICATIONS

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FOREWORD

This paper was prepared as a background document to the OECD's Forum on Electronic Commerce to be held in Paris on 12-13 October 1999. The ICCP Committee's Working Party on Telecommunication and Information Services Policies discussed the report at its meeting on 19-20 April 1999. It agreed to recommend to the ICCP Committee the declassification of this paper through a written procedure. The final version incorporates comments by Member countries.

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MAIN POINTS

The aim of this paper is twofold. First, to begin a policy and regulatory evaluation of developments in telecommunication market openness following the liberalisation in 1998 in the context of the WTO agreement and the liberalisation in the European Union. Second, it is aimed at stimulating reflection on the issues that may need to be examined to enhance market liberalisation and market openness. Although a full assessment of recent market opening may be too premature, there are nevertheless indications of areas where further consideration and action may be required. In addition market developments are raising a number of issues which are likely to become relevant in the event that there are further discussions on market opening in the context of any future WTO service negotiations. As a paper aimed at beginning discussion and reflection, a number of questions are raised which could be used by delegations to provide their own assessment of issues and future problem areas which need consideration.

An important issue in the context of market openness is whether the implementation of detailed regulations by countries, many of which are mentioned in the WTO Reference Paper, needs to be consistent and whether important divergence in implementation of essential safeguards can lead to unequal market entry opportunities. A further question is whether the Reference Paper needs to be deepened to elaborate on existing safeguards and/or expanded to include other issues.

The main areas that could be addressed by Delegations include:

- *Market performance:* Have countries, which have recently opened their markets to competition, been satisfied with market developments and performance?
- *Market entry:* Have market entry procedures been efficient and effective? Are delegations aware of particular problems being faced by firms to enter markets in other countries?
- *Regulatory institutions:* Are regulatory institutions performing adequately? What, if any, changes are being envisaged?
- *Licensing:* Are individual licensing procedures still necessary for infrastructures and services, where resources are not scarce, and entry is unrestricted?
- *Interconnection:* How can interconnection frameworks be improved? Is benchmarking working adequately? What are the problems in adopting long run average incremental cost methodologies?
- *Internet telephony:* Is the treatment in some countries of Internet telephony inconsistent with the stated aims of creating a competitive telecommunications market subject to competition law rather than sector specific regulation?
- *Service definitions:* Are service definitions still important for regulatory frameworks and market entry?
- *Rights of way:* What actions can central governments take to ensure that municipalities provide the required rights of way in a fair and non-discriminatory way?

A REVIEW OF MARKET OPENNESS AND TRADE IN TELECOMMUNICATIONS

Introduction

The aim of this paper is to assess the issues that have been raised and areas that may need future consideration as a result of recent telecommunication market opening in OECD countries. Since the beginning of 1998 telecommunication markets have changed significantly. On 1 January 1998 a number of European Union member countries opened their telecommunication markets to full infrastructure and service competition by allowing competition for public voice infrastructures and services. In addition to this opening of national telecommunication markets, indeed linked with it, was the agreement to liberalise international trade in basic telecommunications. On 5 February 1998 the agreement on basic telecommunications (the Fourth Protocol to the General Agreement on Trade in Services) negotiated in the World Trade Organisation (WTO) came into effect. This agreement by 72 WTO member governments¹ (including all OECD governments) has led to schedules of binding service commitments to provide specified levels of access to trade in each Member's market. A Reference Paper was agreed to in the schedules of a number of countries, partly or in its entirety, which made significant commitments in terms of market openness. Further to this market opening, some European countries that had initially opted for a deferred market opening, decided to accelerate liberalisation.

This liberalisation of telecommunication markets has brought new challenges to the fore. Previous policy debate focused on whether there should be service and/or infrastructure competition, how should it be managed, and what regulatory principles would be necessary. The focus of policy debate has moved away from attaining agreement on such general principles to details of implementation of policies. Regulators are now trying to impose their interpretation on principles that took so long to forge, but remained largely empty of detailed content. Despite similarity in principles, irrespective of whether they derive from the WTO Reference paper or from EU Directives, differences are arising in terms of the interpretation of these principles through the details of implementation.

The European market opening in 1998 meant that a further 21% of OECD telecommunication revenue and 19% of OECD access lines was now subject to unrestricted market competition. As a result 96% of the OECD market (measured on the basis of total telecommunication revenue) is now open to competition. At the beginning of 1999 only six OECD countries (Czech Republic, Greece, Hungary, Poland, Portugal, and Turkey) still maintained exclusive concessions in some market areas, but they have made commitments to open their markets by specified dates (see Table 1).

The full benefits of competition have yet to be realised given the short period since markets became subject to competition. In addition, in a number of countries there are still some fundamental problems in regulatory frameworks, especially with delays in implementing some essential regulatory safeguards, as well as 'teething' problems in implementation of laws and regulations that need to be overcome.

The shift toward more open telecommunication markets has also become intertwined with developments in technological and service convergence between telecommunications, broadcasting, and cable television. Such convergence has important upcoming regulatory implications both in terms of institutional structures and in terms of economic and technical regulation. The issue of convergence has in particular grown in importance in view of changes occurring as a result of rapid Internet development and diffusion and the development of electronic commerce. The potential benefits of electronic commerce have also brought to the forefront the question of access and use of information infrastructures, efficient pricing and availability of sufficient capacity. In this context the business community has highlighted the

continued need for governments to give priority to communication infrastructure issues. For example, in the context of the OECD's Ottawa Ministerial Conference on Electronic Commerce, the business community tabled a paper which argued that for electronic commerce to flourish a set of internationally compatible policies was required, and urged that the WTO's Reference Paper be fully and effectively implemented.²

In terms of ensuring efficient regulatory frameworks, it is important to continually assess developments in market competition and structures. Furthermore, it is opportune for OECD countries to examine which are the main policy issues arising in the area of telecommunications. This is because there is a potential for further trade in service negotiations, which may cover telecommunication services, and the examination of electronic commerce issues in the context of the WTO which includes the role of improved access to infrastructure³. The business community has also stressed the need to ensure adequate market openness. It is also pertinent to reflect on whether, and to what extent, the Reference Paper needs to be widened and/or deepened.

Market entry and performance

The development of competition in telecommunications has had very positive effects on market growth and development. Revenues have grown, including for the former monopoly companies.⁴ Depending on the country, much of the revenue growth has been a result of growth in market volume that has compensated for price decreases resulting from competition. In addition new growth areas have emerged, especially for the incumbent carriers, in terms of interconnect and other carrier services. Growth in the public switched telecommunication market has been stimulated through Internet usage and the impact this has had on dial-up traffic, ISDN, and the take-up of second main lines by residential customers. Continued growth in cellular mobile markets has also increased PSTN traffic, and revenues.

Prices have declined in those countries that have introduced competition, especially for domestic long distance and international services and for leased circuit capacity. This has benefited users. The claims by the former monopoly carriers that competition would adversely impact on universal service has not occurred. On the contrary, a number of operators, in particular the dominant carriers, have implemented innovative pricing schemes for the local market, effectively reducing the average price of local calls for many customers.

At the European level the number of new market entrants since 1998 has been significant. It is not easy to undertake comparisons between countries since licensing procedures differ, but Table 2 is indicative of the number of market participants in selected countries that opened their markets in 1998. Countries that had opened their markets much earlier to competition had already witnessed a significant growth in new market players.

While developments arising from liberalisation are unambiguously positive, problems remain in a number of areas. These include: regulatory performance, competition in the local loop, interconnection, pricing, rights of way, and ownership restrictions. Other new, but related, issues are emerging. These include, licensing for third generation mobile services, convergence and the infrastructure requirements for electronic commerce and regulatory streamlining.

Regulatory performance

The WTO Reference Paper provides a useful framework to assess market openness (Box 1). The main issues covered by that paper are competitive safeguards, interconnection, universal service, licensing,

independent regulators, and allocation and use of scarce resources. Some of these issues are examined below.

Although these safeguards appear straightforward their interpretation is left open. Countries were given a free hand in the subsequent interpretation of these safeguards and/or they could be subject to an eventual dispute resolution process, which would provide more specific interpretation. It is fairly easy to imagine a number of areas where differences in interpretation could emerge at national and regional levels, and which could result in perceived, but not necessarily intended, barriers to market entry. For example, the definition of “cost-oriented” could be one area subject to interpretation; another would be defining universal service obligations that are no “more burdensome than necessary” to achieve stated goals; a third could be the definition of a “major supplier”. Another area where resolution could eventually be required between countries in the context of the WTO agreement could be with respect to definitions of basic telecommunications. This can occur in particular as technological and service convergence change the menu of ‘basic’ services available to the public, and impinge on services that may have broadcast as well as telecommunication characteristics.

Market entry and licensing

There has been no overt evidence that market entry for facility based public telecommunication operators has been impeded in countries that have recently opened their market to competition. Neither has there been evidence that foreign companies have been subject to discriminatory treatment. However, there are relatively wide discrepancies in both the requirements and the speed for obtaining licences from country to country. The fact that some countries have streamlined market entry procedures certainly creates differences in facilitating new entry. For example, Denmark does not require any formal entry procedures for new entrants, some other countries require only registration, while still others require licensing but through a class licensing system. However, a number of countries still require formal individual licences. In many cases individual licensing needs to be accompanied by a business plan (e.g. Japan, Mexico, and Spain up to December 1998).

If there are clear standards on entry then there is no objective need to maintain a licensing framework based on individual licenses. A system of class licensing would, for example, be just as effective.⁵ The exception would be for carriers with significant market power. The only service area where licensing can be objectively justified is for access to spectrum frequency which is limited and may therefore require restrictions on entry. In this context, the EU’s Licensing Directive, for example, suggested that priority should be given to a regime based on general authorisations (class licensing) where there is no need for prior approval by regulators. If market entry is unrestricted, as most countries that have opened their markets to competition assert, then maintaining individual licences cannot be justified, and there is still a danger that individual licensing provides some discretionary power to regulators and, depending on the type of licensing regime in place, the possibility to restrict market entry.

If the purpose of individual licences is to impose on public telecommunication operators certain obligations, for example, the essential conditions noted in the Licensing Directive (97/13/EC) of the EU, these can be imposed on a generalised basis through specific laws outlining these requirements, or through general industry class licensing. In the case where specific requirements need to be imposed on carriers with significant market power, these can in many cases be imposed in general regulatory or legal provisions applicable to carriers with market power rather than in individual licensing. Thus, in the context of ensuring further liberalisation and regulatory streamlining it is appropriate to begin consideration of streamlining entry requirements. Evidence from those countries which have already done so shows no negative effects and these countries also provide examples of how to impose obligations on carriers, if deemed necessary, without using entry restrictions such as licensing.

A more general issue related to licensing that has arisen in the United Kingdom, is how to modify licences in a multi-licence environment. Most countries have general provisions to ensure that conditions inserted in individual licences must be non-discriminatory (firms with significant market power being the exception). The implication is that modifications must be made to all licences at the same time to ensure there is no discriminatory effect. In this context it is important to ensure rapid adjustment to new market conditions that licence modification procedures are in place, rather than having the requirement to renegotiate each licence agreement.

Licensing procedures for cellular mobile services vary considerably from country to country. Many countries use a comparative evaluation method to choose between applications for a limited number of licences. Increasingly a number of countries have used auctions to allocate scarce spectrum. In some cases, over a period of time, both methods have been used resulting in complaints of unfair treatment in that some entrants were required to pay relatively large sums for spectrum, while early entrants did not pay.⁶ Some countries, and the European Union, are beginning to examine the use of spectrum allocation through auctions as one means of objective licence allocation, although some of the EU countries prefer to maintain the tendering process. Certainly, though the comparative evaluation method does not impose high costs on the applicants, it allows some discretion by the regulator, especially when the criteria in undertaking evaluations are not spelled-out clearly. In addition, comparative evaluations place pressure on firms trying to enter markets to present business plans, including network roll-out targets, investment targets, partner with local companies, etc., which they may not normally consider if market entry was unrestricted. While, certainly the auction method provides a system for transparent selection, the bidding costs may have an impact on the operators costs and consequently on customer charges. In addition, auctions may enable operators with large financial resources to monopolise scarce spectrum.

Regulatory institutions

The *WTO Reference Paper* did not enter into detail in its description of regulatory institutions. Regulatory independence was described as occurring when the regulatory body was separate from, and not accountable to, any supplier of basic telecommunications services. Most OECD countries have gone further defining the “independence” of the regulator as a separation from day-to-day political interference, and independence of decision making based on powers vested in the regulatory body. However, in this context there is significant divergence among countries on how this has been implemented. In some cases sector specific regulators have complete independence, including for the head of the institution who cannot be removed from office.⁷ In other countries the regulatory body is attached to the Ministry and the regulator is a civil servant subject to removal from office as other civil servants. The degree of budgetary independence also differs widely by country, although there is a trend to ensure that the budget is covered through a levy on industry participants.

Regulators in different OECD countries also differ in terms of the powers vested in them. For example, some provide licences while in other cases it is the Ministry that provides the licence. Some regulators are responsible for determining numbering plans, whereas in other countries it is the Ministry. The division of responsibilities between the regulator and the Ministry needs to be clear in order to have transparent and effective regulation. In that the concept of an “independent” regulator is new in some countries, there is a reluctance by Ministries to provide full powers to a newly set-up regulatory body. This can create market confusion and slow down the development of competition.

The decisions of regulators, and the procedures they use, are expected to be impartial with respect to all market participants. However, there are relatively wide differences in how regulators apply pressure on the former monopoly and other market participants with significant market power. Some new entrants have complained that regulators are in some countries not taking sufficient action against the

former monopoly telecommunication operators in order to require them to meet certain stated regulatory objectives. The fact that the former monopoly carriers are some of the largest firms in most economies gives these firms a powerful leverage. Where governments still have ownership in the former monopoly, and are in the process of divesting these shares, new entrants have also found that governments (usually through pressure from Finance Ministries) can delay implementing change in some cases. This is because it is thought that regulatory actions could adversely impact on future market value and share prices, and therefore on the potential revenue of the government through share sales. However, share performance of privatised former monopolies does not support this perception. On the contrary, a transparent playing field tends to provide greater stability to the market allowing this market to grow. Where there are doubts about future government actions, this creates market uncertainty and has a greater impact on market valuation of the assets of the company being privatised.

The variation in the degree of “independence” across countries has implications for the ability of the regulator to act decisively and strongly. In turn, this may have implications for market entry opportunities, fair and effective regulation and non-discriminatory treatment. In addition, the extent to which a regulator uses discretionary power may also be a function of “independence”, since a regulatory body subject to political or economic influence will tend to use discretionary powers more with subsequent implications for market entry and regulatory performance. The power of the regulator and the extent that the regulator is willing to use this power can be important in determining the ease of entry into a particular market.

There are important differences in the extent to which regulators have imposed asymmetric treatment on operators with a dominant market position (usually the former monopoly). Regulators have reacted quite differently to attempts by such dominant players to delay implementation of change, to delay provision of effective interconnection, and to provide information required by the regulator. These differences in the interpretation of their roles have led to differences in the evolution of competition in markets. Asymmetric regulation can have negative as well as positive consequences. On the negative side it can act to slow innovation and investment in new technologies since asymmetric regulation would normally prevent the firm with significant market power from entering into specific lines of business. On the positive side asymmetric regulation allows new entrants to develop an adequate client base in a new service area, providing a strong basis for future competition.

By agreeing to the Reference Paper of the WTO agreement on basic telecommunications, WTO Members also recognised that the transition from a monopoly market structure to competition in the telecommunications sector required economic and technical regulatory intervention (sector specific regulation) in addition to the elimination of existing barriers to market entry. However, the telecommunications sector is not exempt from competition law provisions in most OECD countries, but the influence that competition authorities have in telecommunications varies. Most countries view sector specific regulation as transitory, but necessary until sustainable competition develops.

Interconnection

Interconnection is viewed by most policy makers as the key in creating favourable market entry opportunities and conditions for competition. It is also a complex issue requiring expertise from regulators, which in the early days of regulation is not easy to come by. Most of the contentious issues following liberalisation have centred on the requirements to provide interconnection, the timeliness of providing interconnection, and on the price structure for interconnection. The WTO Reference Paper highlights the importance of all these areas, nevertheless some regulators have been amiss in not ensuring that national interconnection requirements are being met by dominant carriers, or have been slow in taking appropriate decisions to ensure appropriate interconnection by new entrants.

In a number of countries interconnection problems have revolved around the determination of prices. An increasing number of OECD countries are adopting the long run average incremental cost (LRAIC) methodology to determine costs and interconnection prices. It is important to exchange more information in this area to ensure that the LRAIC methodologies adopted in each country are comparable. There has been, in many cases, a delay in implementation of the LRAIC methodology with subsequent negative implications for interconnection pricing. As a consequence some countries, especially in the European Union, have resorted to the use of benchmarking in the interim based on best practice. The resort to best practice reflects difficulties in obtaining information on cost allocation in telecommunications, and a general belief that historical costs are inefficient. Some countries believe that the use of LRAIC may require adaptation to respond to their specific level of development and technologies in use.

Despite the increasing use of benchmarks a wide range in prices still exists and high prices are still retarding effective entry by new entrants. Where high and stable interconnection charges are linked with declining retail prices, the revenue margins of new entrants are being squeezed and in certain cases imposing a severe financial cost on them. The adoption of the LRAIC methodology across countries is a positive development that can help in resolving any disputes in the longer term, but will ensure more objective and non-discriminatory treatment.

In the interim, however, the resolution in the WTO to resolve disputes “within a reasonable time period” has not been particularly effective. Problems have arisen because most incumbents view interconnection as a competitive threat rather than as a business opportunity. As a result incumbents have delayed responding to the requests from new entrants. Regulators, either because of lack of expertise or insufficient powers, have not in all cases acted with sufficient vigour to facilitate interconnection for new entrants.

Another issue with respect to interconnection concerns the network termination points being offered and the amount of payment required by new entrants at points other than the network termination points offered to the majority of users. Dominant carriers have, on the one hand, been making the minimum network points available and, on the other hand, tried to maximise charges for the cost of providing additional facilities. Partly in response to this tactic new entrants have tended to aggregate traffic in a minimum number of points. In turn this has created bottlenecks. The Reference Interconnection offer may help in alleviating these bottlenecks.

A recent issue in some countries with respect to interconnection relates to the revenue sharing rules that exist. For example, in the United Kingdom there has been a growing number of ISPs offering ‘free’ Internet access whereby the user only pays the cost of the local call with no subscription charge. Such ‘free’ access can be offered because of the structure of revenue sharing between operators originating the call and those terminating the call. While cheap access to the Internet, and electronic commerce, need to be supported, such ‘free’ access may be the outcome of distorted revenue sharing structures. These interconnection frameworks need to be examined more closely to ensure that they are fair and reflect costs. In the United States this issue arises in terms of the payments of reciprocal compensation between carriers which occurs for local traffic and not for long distance. If a dial-up Internet access call were deemed local then a reciprocal payment would be necessary, but if it is considered interstate then such a payment is not necessary. The FCC has decided that dial-up calls are not local, avoiding compensation, and giving the FCC jurisdiction for Internet dial-up calls.

Regulations, whether for Internet access, or for price regulation relying on definitions based on trying to differentiate between local and long distance calls are unlikely to be sustainable in the medium term and can result in structural problems. Both from the price perspective and the technological perspective, geographic boundaries are becoming artificial and need to be eliminated. One of the

arguments used to put downward pressure on international accounting rates was that costs of termination for calls at international gateways were not much different than national long distance calls. Similar arguments can be made here. Until structural issues are tackled for interconnection, as well as in other areas, it will be difficult for regulators to promote open competitive markets.

For Internet Service Providers reciprocal peering for exchange of traffic is important. In certain countries, for example Australia, a requirement has been imposed on the significant market player to provide peering on a reciprocal basis. This issue is of interest in that country since one of the companies with which the incumbent has reciprocal peering arrangements has been taken over by a foreign company. This could give the foreign company an unfair advantage since it can aggregate all its incoming Internet traffic through its new acquisition. The question arises as to whether reciprocal peering should be required of that foreign company on an intercontinental basis. This question has important implications for international peering as well as issues being raised on financing of Internet infrastructure.

A number of countries have yet to address the issue of direct access to undersea cables or cable landing stations. Many new entrants have tried in the context of interconnection to attain access to these facilities, but have been frustrated because they are not covered in existing definitions for interconnection.

Accounting rates

With respect to accounting rates the Report of the Group on Basic telecommunications:

“Noted that five countries had taken Article II exemptions in respect of the application of differential accounting rates to services and service suppliers of other Members. In the light of the fact that the accounting rate system established under the International Telecommunications Regulations is the usual method of terminating international traffic and by its nature involves differential rates, and in order to avoid the submission of further such exemptions, it is the understanding of the Group that: the application of such accounting rates would not give rise to action by Members under dispute settlement under the WTO; and that this understanding will be reviewed not later than the commencement of the further Rounds of negotiations on Services Commitments due to begin not later than 1 January 2000.”⁸

Accounting rates, the outcome of bilateral negotiations, still remain above cost and differ for relations with a similar distance. On an increasing number of international routes, particularly those between OECD countries with the more competitive telecommunication markets, the accounting rate system has been put under significant pressure. Settlement rates between the United States with countries that had made full market access commitments at the WTO declined by 23.9% between 1997 and November 1998⁹. The accounting rates between OECD countries and the United States ranged between SDR 0.85-0.12 in 1996 compared to SDR 0.48-0.1 by 1999. For a number of relations settlement rates are lower than domestic long distance rates. Certainly within Europe the former TEUREM system for determining cross-border settlement payments is no longer in effect. The development of direct international capacity on a country-to-country basis by private firms, and the large build-up of capacity across the Pacific and the Atlantic, linking mainly OECD countries¹⁰, would appear to indicate that issues relating to the international settlements system may become less relevant over the next several years among those countries that have opened up their markets to competition. This will have eventual spillover effects on other countries that maintain monopolies for the provision of international telecommunication services making it difficult to maintain the existing system of payments for termination of international traffic.

It will nevertheless be appropriate for the WTO to discuss whether to begin reviewing developments in the area of international telecommunication charging practices in order to ensure that the existing system does not pose problems in the provision of cross-border telecommunication services. The decision to review developments in this area should be dependent on the extent to which competition has already resolved some of the outstanding difficulties and on progress on this issue in the International Telecommunication Union.

Universal service

The scope of universal service and the allocation of responsibilities for universal service, as well as methodologies to determine the cost of universal service differ across OECD countries. Linked with this are payments to contribute to access deficits, which in some cases have been added to interconnect charges. As a result of these differences entry opportunities have been unequal and the financial burden on new entrants has differed across countries. In certain cases non-established firms have had to contribute to national social goals. Some of these goals may become quite wide as countries try and implement policies aimed at ensuring that there is adequate access by all segments of society to information resources.

Although the WTO agreement is not concerned so much with equality of opportunity for market entry as it is with national treatment and MFN treatment, such differences can result in market frictions. They can also result in inadvertently restricting market entry.

Numbering policy

Numbering policies encompass the general framework for allocating numbering as well as ensuring numbering portability. Although in most cases number allocation has not posed a problem, countries have been slow in implementing number portability, even though it is recognised that portability is important in developing competition. In the EU, for example, full number portability should be implemented by December 1999. It is doubtful if many countries will meet this deadline. In addition, geographic portability (where it is possible) and mobile portability seem to be much further on the horizon. Carrier preselection while important has also been slow in implementation. The regulation of numbering policies is an area that some countries have left to industry self-regulation. Those countries have shown that self-regulation can be implemented effectively and rapidly. Such self-regulation provides one example of where regulators, in the context of streamlining regulation, consider providing incentives for such self-regulation.

Pricing

Most countries have some form of price regulation. This has not always been working effectively. In some cases because price control has been based on too complex formulae, in others because price control has not been limited to those services where there is little or no competition but has covered services where competition has developed. In several OECD countries there still exists a system of price authorisation by the government, which often results in delays in implementing price changes, and which is subject to political considerations. A price cap mechanism on the other hand ensures that price changes are kept at arms length from political or other considerations. It is important that the independent regulatory authority is also in a position to provide to the government an analysis of the economic and competition considerations involved in price control. Delays in price rebalancing can also result in difficulties in market entry if the existing prices of the incumbent are still being cross-subsidised. Pricing policies, which are badly co-ordinated with interconnection policies and decisions, have also created

problems by squeezing margins of new entrants when the prices of incumbents are allowed to decline, but interconnection charges remaining static.

Rights of way

Market entry for facility-based telecommunication operators without adequate access to rights of way is of little use. Rights of way encompass the ability to lay down cable within cities and in the countryside, and access to other rights of way, such as those of utility companies, railways, etc, and the existing rights of way of the former monopoly operator. The requirement to ensure rights of way is mentioned in the telecommunication laws of a number of countries. However, regulators often have insufficient power to ensure access to rights of way. Such power is often shared with other Ministries and with municipalities. In a number of cases municipalities, with their own networks, or with ambitions to construct municipal networks, have tried to foreclose entry opportunities to new entrants to put in place their own infrastructure, offering instead access to the municipal networks. This can result in the recreation of monopolies but at the local level. Governments are at times reluctant to intervene because of the political sensitivity of this issue having to do with central government authority in areas traditionally reserved for municipal governments. Resolution of this issue is urgent.

Foreign ownership

Restrictions on investment in telecommunications infrastructure and services by foreign companies were viewed as a potential stumbling block in the early stages of the negotiations on basic telecommunication services. However, most countries, at least from the OECD area, retained few, if any restrictions on foreign direct investment. Those restrictions that were retained usually involved ownership of the former monopoly carrier (often state-owned), or were in the area of cellular mobile services and thus, in general, have not created obstacles for foreign infrastructures or service providers were entering the market. However, in several countries specific rules regarding foreign suppliers still exist, some of which make foreign entry difficult. At present there are 21 OECD countries that still have some state ownership in their former monopoly carrier. While privatisation has been taking place it has been relatively slow and usually involved selling 'tranches' of shares rather than complete privatisation. Several OECD countries still have legal requirements to maintain partial state ownership

Many countries find that there is no longer a rationale to maintain ownership in the incumbent telecommunications carrier. Other regulatory means exist to protect social goals as well as security or other requirements. For example, a number of countries maintain indirect control on the incumbent carrier through "golden share" policies and have non-discriminatory ownership restrictions which serve to limit the ownership share in the incumbent by any person or company. In fact, with more competition and a greater number of national facilities, security, access and reliability will be enhanced so that there is less of a rationale for depending on a single infrastructure provider. Similarly, many countries believe that there is no economic justification to impose foreign ownership restrictions on mobile licences. Government ownership in operators may result in regulatory decisions, which are not optimal and may result in delay in implementing required changes. An example of the former is the privatisation of former monopolies with their cable television infrastructures remaining as part of the company, whereas divestiture would have accelerated local loop competition.

Mobile services

In most OECD countries market entry for mobile cellular services is through a licensing procedure and the number of licences is limited. The justification for limiting licences is spectrum

scarcity. There was general acceptance in the WTO negotiations on basic telecommunication services of limiting market entry for reasons of scarce resources. Over the next several years OECD countries will need to examine procedures for the introduction of advanced mobile services, notably third generation mobile services based on IMT-2000 (International Mobile Telecommunication-2000). European Union Member states have already agreed to a progressive and co-ordinated introduction of IMT-2000 services from 1 January 2002 at the latest, and to implementing a licensing system by 1 January 2000 at the latest.

In the context of market openness there are a number of issues raised by the implementation of a licensing system for IMT-2000. The first issue is how many licences will be issued. A number of European countries have estimated that, given the amount of frequency available and the amount necessary for these new mobile services, the number of license holders should be limited to four or five for a given geographic area. The practice followed in awarding second generation mobile licences should be avoided, i.e. a piecemeal approach whereby several licences were first provided followed by a third licence. In a few cases was there an attempt to pre-determine how many licences could be supported subject to spectrum requirements. A second major issue is how to allocate these licences. There is considerable pressure on some governments from existing cellular mobile licensees to try and obtain automatically an IMT-2000 licence on the grounds that IMT-2000 is an evolutionary technology, so it should be normal for them to transform existing licences. However, regulators need to examine carefully the implications of licensing and ensure that fair competition develops cross-ownership between different technologies.¹¹

The question of allocation of IMT-2000 licences has led several countries to begin examining auctions as a possible means to allocate these licences instead of relying on 'beauty contests'. Other countries have decided to maintain the existing system of licence allocation.

IMT-2000 will allow for the development of advanced multimedia services, which implies that there may be a role for content providers in service provision on IMT-2000 infrastructures. The question of service access to mobile infrastructures needs, therefore, to be examined.

There is increasing pressure on regulators to examine the price of calls from fixed to cellular mobile phones. In March 1998, for example, OFTEL stated that prices of calls to mobile phones in the United Kingdom were excessive in relation to cost. As mobile prices decline and cellular mobile becomes substitutable for fixed telephony services this issue will be more prominent. As well, mobile price competition is not as strong as would be expected in many countries. This is partly due to the rapid growth in market size where price competition has become relatively less important.

Convergence

Technological and service convergence is placing pressure on infrastructure and service definitions that form the basis of much regulation. Regulation can play an important role in the convergence between different infrastructure platforms as well as slow the diffusion of new services and technologies. Rigid regulatory frameworks can reduce user benefits and prevent service providers from making use of the platform best suited to provide services.

In terms of the GATS Sectoral Classification List, telecommunication services were classified in ten categories¹² covering basic telecommunication services and value-added services. The WTO Negotiating Group on Basic Telecommunications in fact used a very broad, and to some extent open-ended definition for basic telecommunications, which covered any telecommunications transport networks or services. Infrastructure coverage includes cable television networks when these are used in the offer of basic telecommunication services.

A background note by the WTO Secretariat¹³ raises the question of the relevance of the classifications used in view of rapid technological developments and convergence. It is also recognised that it is difficult to develop new definitions given that they could become dated quickly. At that same time the paper notes that in order to be clear on the scope and coverage of new commitments, categorisation can be important. Earlier work by the OECD on Internet issues, for example webcasting and Internet telephony, noted that convergence was resulting in new "like" services that muddled definitions. In that communication regulation, whether broadcasting or telecommunication, is often strictly tied to infrastructures it would be appropriate to begin reviewing this definitional base and service possibilities. In countries such as Germany the definition of telecommunications covers the transport medium for broadcasting as well as information and communication services and, as a result, definitions do not hinder the convergence process.

Access to cable television is raising issues in some countries, particularly for Internet Service Providers (ISPs). In that some cable television companies are beginning to offer Internet services through cable modems, non-facility-based ISPs have been requesting non-discriminatory access to the cable infrastructure to offer Internet services. The request for unbundled access to cable infrastructures has been strong in the United States.

The GATS Annex on Telecommunications, dealing with access to and use of "public telecommunications transport networks and services", requires each Member to ensure that all service suppliers seeking to take advantage of scheduled commitments are accorded access to and use of public basic telecommunications, both networks and services, on a reasonable and non-discriminatory basis. In that Internet service provision is considered as a value-added service in a number of countries there should be no difficulty attaining access to public switched telecommunication networks. In general, ISPs do not have such problems. However, while basic telecommunications may be provided through any means of technology¹⁴, including cable, discriminatory treatment remains as to the ability of value added services to have access to the same infrastructures.

In Canada, the Canadian Radio-Television and Telecommunications Commission ruled in 1996 that cable operators who transmit telecommunications services on their broadcasting distribution infrastructure are common carriers. Cable operators have been required to make network capacity available to ISPs and are currently exploring the resolution of technical and operational issues associated with third party access to cable networks. Such facility sharing should be encouraged elsewhere. The arguments being used by most cable operators to justify restriction of entry to ISPs is reminiscent of those by public telecommunication operators against allowing access to value added service providers to their networks, that is, that it will harm their ability to invest in network and services by competing away profitable business areas. These arguments proved to be false for value added services. These arguments become less relevant when public switched operators have the broadband capacity to provide programming on their networks, and therefore erode completely definitional distinctions.

Several regulators have begun examining the implications of convergence. OFTEL (United Kingdom), for example, has been an early leader in this area. Recently the Chairman of the FCC in the United States submitted a report to Congress¹⁵ which argues that as technological and market boundaries distinguishing telecommunications, cable and broadcasting blur, the statutory differences make less and less sense and if maintained could result in inefficient rules with negative effects on markets. The EU in its consultation process on convergence has indicated that consensus is building up on the need to ensure a consistent approach to the regulation of networks and transmission services.¹⁶

Internet provides an interesting example of the evolution of Member countries' thinking with respect to definitions. In the OECD's *Communications Outlook 1997* countries were asked how national and international voice telephony services provided over the Internet by entities other than the PTO would

be defined and treated. Two years later Member countries were asked the same question again. During this period a number of OECD countries had shifted from treating Internet telephony as a value added service, and thus not subject to regulation, to considering Internet telephony in the same terms as public telephone services provided using the public switched network. Thus, a number of OECD countries would now impose the same treatment on Internet telephony as they do for public voice services, as shown in Table 3. This divergence in policies is leading to inconsistent treatment across OECD countries for this specific service. Further, by encompassing Internet telephony within existing regulatory frameworks, some countries have missed the opportunity provided by new technologies to streamline regulations and allow unregulated markets to develop.

Regulatory streamlining

The objectives of regulation are to promote competition, promote market efficiency and ensure that the end-users benefit from market developments. As competition develops it is important to forbear from regulation, allowing the full play of market forces. Regulations can have negative effects, if maintained when unnecessary.

Even though in most countries liberalisation, and the adoption of a number of regulatory safeguards, is still at early stages, it is nevertheless opportune to begin reflecting on future streamlining of regulation. Regulators should, in all cases, have an obligation to continuously review their regulations and withdraw from regulation where developments allow this to concur. For example, in the United States the FCC is required to undertake a biennial review to attempt to streamline regulations.

Table 1. Remnants of telecommunication monopoly in OECD

Country	Year for complete market opening	Existing coverage of monopoly
Czech Republic	2001	Local, national and international PSTN infrastructure and services.
Greece	2001	Local, national and international PSTN infrastructure and services.
Hungary	2002	Local, national and international PSTN infrastructure and services.
Poland	2003 for long distance and international	Local, national and international PSTN infrastructure and services.
Portugal	2000	Local, national and international PSTN infrastructure and services.
Turkey	2006	Local, national and international PSTN infrastructure and services.

Source: OECD.

Table 2. Number of licences for public telecommunication facilities, January 1999

Country	Number of licences	Country	Number of licences
Austria	13	Korea	3
Belgium	19	Luxembourg	6
Denmark	16	Mexico	7
Finland	20 trunk	Netherlands	60
France	23 local, 13 trunk	Norway	14
Germany	49 local and trunk	Spain	26 local and trunk
Ireland	29 local and trunk	Sweden	15 local and trunk
Italy	5 local, 4 trunk	Switzerland	51 operators of fixed networks

Source: OECD.

Box 1. Fourth protocol to the general agreement on trade in services

Reference Paper

The following is a summary of some of the regulatory principles for basic telecommunications, which are contained in the WTO Reference Paper.

1. Competitive safeguards

Appropriate measures shall be maintained for the purpose of preventing anti-competitive practices in particular: (a) engaging in anti-competitive cross-subsidisation; (b) using information obtained from competitors with anti-competitive results; and (c) not making available to other services suppliers on a timely basis technical information about essential facilities and commercially relevant information which are necessary for them to provide services.

2. Interconnection

Interconnection with a major supplier will be ensured at any technically feasible point in the network. Such interconnection is provided: (a) under non-discriminatory terms, conditions (including technical standards and specifications) and rates and of a quality no less favourable than that provided for its own like services or for like services of non-affiliated service suppliers or for its subsidiaries or other affiliates; (b) in a timely fashion, on terms, conditions (including technical standards and specifications) and cost-oriented rates that are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided; and (c) upon request, at points in addition to the network termination points offered to the majority of users, subject to charges that reflect the cost of construction of necessary additional facilities.

The procedures applicable for interconnection to a major supplier will be made publicly available.

It is ensured that a major supplier will make publicly available either its interconnection agreements or a reference interconnection offer.

A service supplier requesting interconnection with a major supplier will have recourse, either: (a) at any time or (b) after a reasonable period of time which has been made publicly known to an independent domestic body, which may be a regulatory body to resolve disputes regarding appropriate terms, conditions and rates for interconnection within a reasonable period of time...

3. Universal service

Any Member has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive *per se*, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the Member.

4. Public availability of licensing criteria

Where a licence is required, the following will be made publicly available: (a) all the licensing criteria and the period of time normally required to reach a decision concerning an application for a licence and, (b) the terms and conditions of individual licences.

The reasons for the denial of a licence will be made known to the applicant upon request.

5. Independent regulators

The regulatory body is separate from, and not accountable to, any supplier of basic telecommunications services. The decisions of and the procedures used by regulators shall be impartial with respect to all market participants.

6. Allocation and use of scarce resources

Any procedures for the allocation and use of scarce resources, including frequencies, numbers and rights of way, will be carried out in an objective, timely, transparent and non-discriminatory manner. The current state of allocated frequency bands will be made publicly available, but detailed identification of frequencies allocated for specific government uses is not required.

Table 3. Treatment of Internet telephony: selected OECD countries

	1996	1998
Australia	Data service subject to minimal regulation.	Likely that any provider would be considered a 'carriage service provider' and as such would be subject to the standard carriage service provider rules.
Canada	According to CRTC all voice services are treated equally, including Internet Telephony.	The CRTC determined that most Internet service providers are not facilities-based telecommunications carriers and consequently they are not regulated. If an ISP should wish to become a facilities-based carrier then it would be subject to the same conditions and obligations as other facilities-based carriers.
Denmark	International voice telephony services provided over the Internet are not defined and/or treated differently from international voice telephony services provided by other means.	No regulations.
France	General framework of regulation applying to voice telephony would apply to public voice telephony over the Internet.	French law defines telephone service provided to the public in a way that is independent of the technology used. Under these circumstances, the provider of public telephone service is subject to the same rules whether using Internet or on any other platform.
Japan	There is no particular definition of voice telephony on the Internet and no special handling of or regulation on Internet voice telephony services.	Telecommunication carriers that provide international Internet telephony are required to submit a report on the volume of traffic. Internet telephony services are defined as 'telecommunications services to convert sound into Internet protocol packets and use a packet switching system to transmit them'.
Mexico	No restrictions.	Internet service providers are considered value-added services. Value added services cannot provide telephony services to the public.
New Zealand	Internet telephony services are not defined or referred to in any legislation.	Such services are not defined. Operators of international voice telephony services provided over the Internet, interconnected to the PSTN at both ends, are required to be registered under the Telecommunications (International Services) Regulations 1994.
Norway	Provision of public voice telephony by other than the PTO is not allowed.	National and international voice telephony services provided over the Internet will be defined and treated as public telephony services as long as it is comparable to PSTN in quality.
Switzerland		Voice telephony over the Internet is regarded as a telecommunication service and consequently is subject to telecommunication legislation. It is not considered as forming part of the universal service provision and is therefore not subject to the legal requirements applicable to that service and to its providers.
Turkey	Voice services are not permitted over the Internet.	
United Kingdom	Too early in the development of technology to determine regulatory status.	It is likely that Internet telephony would be treated as a form of resale.

Source: OECD, *Communications Outlook 1997* and *Communications Outlook 1999*.

NOTES

- ¹ By November 1998, there were 83 WTO Members that had included basic telecommunications in their schedules of commitments (see WTO, Telecommunication Services, S/C/W/74).
- ² Business Statement on the Impact of Telecommunications Liberalisation, made on the occasion of the OECD Ministerial Conference "A Borderless World: Realising the Potential of Global Electronic Commerce", 8 October 1998. .
- ³ See WTO WT/COMTD/W/51 23 November 1998.
- ⁴ For example, revenues have grown by 5.3% for France Telecom from 1997 to 1998, 11.2% for Telenor (Norway), 5.1% for Swisscom, 5.9% for Belgacom and 3.4% for the first six months of 1998 for Deutsche Telekom.
- ⁵ In some countries the shift away from an individual licensing system may require changes to the Constitution which require a system of concessions. In other countries there may be a need for a revision of the Telecommunication Law.
- ⁶ This was the case in the Netherlands, where the early entrants attained their licences through a comparative evaluation and later entrants obtained licences through an auction. In Greece, the first market entrants obtained licences through an auction and the third entrant was provided a licence directly.
- ⁷ Removal can only be undertaken in very specific circumstances.
- ⁸ S/GBT/4/ 15 February 1997, p.2.
- ⁹ FCC, *Report on International Telecommunications Markets 1997-1998*, 7 December 1998.
- ¹⁰ See DSTI/ICCP/TISP(99)4/FINAL, *Building Infrastructure Capacity for Electronic Commerce: Leased Line Development and Pricing*.
- ¹¹ The German Regulatory Authority for Telecommunications and Posts has decided that the IMT-2000 market (UMTS in Europe) is different from the market for cellular mobile services (GSM).
- ¹² These are: Voice telephone services; packet-switched data transmission services; telegraph services; facsimile services; private leased circuit services; electronic mail; voice mail; on-line information and data retrieval; electronic data interchange; enhanced/value-added facsimile services; code and protocol conversion; on-line information and/or data processing; and, other.
- ¹³ World Trade Organization, Council for Trade in Services, Telecommunication services, background note by the Secretariat, S/C/W/74, 8 December 1998.
- ¹⁴ WTO, *Report of the Group on Basic Telecommunications*, S/GBT/4, 15 February 1997.
- ¹⁵ *A New Federal Communications Commission for the 21st Century*, FCC, March 1999.
- ¹⁶ See *Summary of the Results of the Public Consultation on the Green paper on the Convergence of the Telecommunications, Media and Information Technology Sectors: Areas for Further Reflection*, SEC(98)1284, 29 July 1998.