OECD STATEMENT ON
THE BENEFITS OF TELECOMMUNICATIONS INFRASTRUCTURE COMPETITION

The OECD’s Committee for Information, Computer and Communications Policy agreed at its twenty-fifth session (14th-16th March 1994) to recommend the derestriction of this statement. It is published on the responsibility of the Secretary-General.

Introduction

1. Modern communications infrastructures, and their corresponding services, have already transformed production and distribution processes in manufacturing, have become an integral part of service industries, and are a key factor in international trade and the globalisation of the world economy. In this capacity communications infrastructures and services create business opportunities outside the sector itself as well as being an important sector in its own right. The communications sector is also a driving force in stimulating new technologies and innovation in key areas such as semiconductors, software and opto-electronics.

2. The social role of communications is important and its potential is increasing. It is important not only for personal communications but for the elderly, the handicapped and for personal security. Modern communications technology is capable of being used for sophisticated distant medical consultation and for distant learning in education. But stimulating and facilitating the use of these technical possibilities depends to a large extent on the operators.
3. The OECD's Committee for Information, Computer and Communications Policy (ICCP) and its Working Party on Telecommunications and Information Services Policies (TISP) has, for a number of years, been examining issues related to the liberalisation of domestic and international telecommunications markets, and to related regulatory questions. Since then there have been extremely positive developments in the liberalisation of telecommunication markets: this has encompassed the liberalisation of restrictions to attachment of equipment to networks; the opening of telecommunication value-added service markets to competition; the separation of regulatory functions from the operation and provision of telecommunication services resulting in independent regulatory structures and improved transparency in policy frameworks. Over time the boundaries of monopoly provision have receded. In recent years there has been an acceleration in market liberalisation and a majority of Member countries has taken a positive attitude to the concept of competitive provision of telecommunication services. Although monopolies still exist in the provision of telecommunication services there is a clear momentum toward eliminating them. However, one of the last barriers to competition in the telecommunication sector is the restrictions on the competitive provision of infrastructure, that is the hardware and software for switching and transmission that support telecommunication services.

4. The TISP Working Party examined issues related to competition, in particular facility-based competition, at its Twelfth Session (December 1993) based on a Secretariat background report. In view of the importance of this issue, and the positive reception delegations gave to the results of the report, the Committee on Information, Computer and Communication Policies considered that wider diffusion should be given to the findings of the report and the considerations of the Committee and its Working Party.

5. In summary, the Committee was provided with arguments indicating where infrastructure competition was introduced there was evidence that:

   -- facilities competition can bring substantial benefits to users, in terms of increased choice, greater innovation and higher quality of services at reduced prices;

   -- liberalisation stimulates significant gains in the size of the telecommunication market;

   -- universal service has not been impaired by market liberalisation, on the contrary facilities competition can be applied to complement and enhance universal service;

   -- competition encourages improvements in the efficiency of public telecommunication operators and opens up new employment opportunities in and beyond the telecommunication sector.

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6. Some OECD countries feel that further work should be carried out because the validity of the conclusions may be dependent on the existence of some underlying conditions. Countries from which experience is available have in general well established telecommunication infrastructure and a high level of service. The relevance of the findings to other countries is thus not known so far.

**Benefits to users**

7. Technological change and innovation have led to the proliferation of ways to send, receive and manage information over telecommunication networks. The resulting new products and services, meant that it has been increasingly difficult for public telecommunication operators (PTOs) to satisfy totally all types of users under traditional monopoly arrangements. For some users access to a telephone service at reasonable rates remains the highest priority. For others the priority has become access to new services, made possible by the convergence of telecommunication and information technologies. At the same time alternative service suppliers want the opportunity to meet growing demand in competition with incumbent PTOs. Experience in a growing number of Member countries shows the application of facilities competition to be a valuable tool in taking advantage of such developments.

8. A key driving force in the changes affecting telecommunications is the fundamental role these services are playing in economic activity. Manufacturing and services industries have, and continue, to undergo fundamental restructuring integrating computer and communications networking in production processes and distribution functions. These changes are requiring efficient telecommunication services and customised solutions.

9. Globalisation of economic activities has also been important in driving change in telecommunication market structures. Business users operating increasingly on an international level require services that provide the same telecommunication applications support they receive at a national level. In times past, large users have found it cost effective to build and operate their own private networks to assure reliable, high quality network services. Yet, multinational corporations needing to transfer large amounts of information around the globe would prefer to use telecommunication applications to improve their own business efficiency rather than being in the network business. Toward this goal, telecommunication user groups are urging PTOs to adopt a global perspective and to provide seamless international communication networks.

10. Telecommunication is being changed from a supply to a demand led industry. PTOs are following their major customers into international markets and seeking greater regulatory freedom to meet user requirements nationally and internationally. Some Member countries have moved to restructure policy to make the provision of end to end services easier for PTOs.
Most fundamentally a growing group of countries allow facilities competition, increasing the choice of service suppliers for users. Although the international investments sometimes resulting from industry restructuring tend to be the focus of much attention, it is the potential to increase efficiency through end-to-end service provision that interests users. Yet while international developments are an important consideration, perhaps the primary reason for introducing competition is to improve the efficiency of operators in traditional markets.

11. Evidence from countries which have introduced infrastructure competition is unambiguously positive in terms of the benefits to manufacturing and service industries. Important price reductions have occurred and quality of service has increased. In New Zealand, for example, the benefits arising from infrastructure competition were far ahead of what had been forecast in 1987 when market reforms were introduced.

12. Experience has also shown that a competitive market-place provides the best incentives to ensure that service operators provide their customers with the services and quality that is demanded.

**Market growth**

13. Perhaps the major concern raised by Member countries maintaining monopoly provision of services and infrastructure is that competition will divert revenue from the incumbent public operator undermining its ability to meet universal service, and may also jeopardise the "integrity" of the national network. This diversion of revenue, it is argued, will occur from traffic loss. If such diversion has occurred in Member countries which have introduced facilities competition it could be expected to show up in their traffic and revenue growth rates. Yet the available evidence suggests that Member countries with liberal markets generally have higher traffic growth rates than those with monopoly markets. In the United States, for example, facilities-based competition led to declining market share for the incumbent, but this was more than compensated by significant market growth. What makes the high growth rates of traffic even more significant in those Member countries with infrastructure competition is that they tend to have greater liberalisation in leased line provision which carry an important percentage of business traffic.

14. PTOs in competitive markets also continue to have robust financial performance. It would therefore appear that liberalisation has stimulated overall traffic and revenue growth. This has been reflected in the increasing share of telecommunication services revenue as a percentage of GDP in Member countries with competitive markets.

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15. Moreover, the evidence shows that as the telecommunication sector grows the national cost of an important aspect of universal service -- unmet demand -- is declining relative to overall telecommunication revenues. Not only can the benefits of liberalisation be sought for economic development without any adverse impact on existing achievements, but also competition can be applied as a force to deal with unmet demand and bring down the cost of existing and future universal service goals.

**Infrastructure competition and universal service**

16. The available evidence suggests facilities competition has brought dramatic reductions in the cost of premium basic services, such as long distance telephony, and increased quality and choice for users in meeting their requirements. There is a growing awareness that competition can be applied to improve universal service through direct service provision and transparent financial contributions from new operators; applying price discipline to incumbent PTOs; stimulating market growth; and introducing new technologies, flexible pricing and innovative services. Moreover it is often overlooked that increased efficiency in incumbent PTOs, stimulated by competition, is a major factor in bringing down the cost of delivering universal service and therefore benefits users. In the United States it has been estimated that the benefit to consumers from competition has been an annual gain of between US$2.5 to US$6.0 billion.

17. Telephone penetration has not been eroded in any Member country which has introduced infrastructure competition. On the contrary, access to the telephone has steadily improved in liberal markets. This is part of the foundation for the growing consensus among Member countries that competitive telecommunication markets can increase efficiency. Yet there is still sometimes a reticence to introduce substantial reform until PTOs in monopoly markets have reached certain levels of performance in terms of tariff and network development. This seems to rest on a premise that competition is a threat to improved performance in meeting all economic and social policy objectives.

18. The issue of competition being a threat to universal service has been widely, albeit from genuine concerns, misconstrued. The application of competition and co-operation are both tools available to policy makers to increase efficiency and achieve universal service aspirations. While the role of co-operation is widely recognised, the value of using competition to improve universal service objectives is less well understood. Some may ask whether it is possible that competition could be compatible with extending the network to remote regions or if it can be harnessed to improve local loop access and services. Yet facilities competition has been used to extend services to under-served regions in several Member countries.
19. Developing countries are now building on these experiences by inviting PTOs from OECD Member countries to develop facilities in under-served regions and an increasing number of these countries are ending the state monopolies with the aim of attracting foreign investment and expertise to provide telecommunication to new industrial estates and rural areas poorly served by present utilities. Moreover, there is increasing evidence that facilities competition can bring welcome choice and market disciplines to the provision of local services.

20. In increasingly competitive markets new questions are emerging in respect to competition and universal service. One of the most important is how can competition be applied to improve universal service goals. In the UK, policy makers now not only look at indicators of telephone penetration but to the number of new residential connections provided by new service suppliers. In some cases new customers are receiving a telephone for the first time because it has been made affordable for them through competitive service supply. This is an important development and evidence that competition can be harnessed to improve universal service. Competition can also be applied to enhance universal service in the lives of many different types of users. In the OECD area the fruits of technological convergence are bringing forth a rich variety of new applications that can benefit users such as the disabled and elderly. To date the major barrier to the widespread application of premium services, such as mobile communication, for these users has been price. Yet competition is stimulating price reductions and innovative pricing packages, with the potential to bring premium services into the reach of an increasing number of people.

21. In times past the most significant obstacle in seeing a major role for mobile cellular networks in the provision of universal service has been the relatively high cost. In a comparison undertaken in 1992 the OECD found that the average cost of a basket of cellular services was around four times that of a fixed PSTN basket. Yet where competition has been applied, pricing strategies aimed at boosting penetration, with relatively low fixed charges, have been a welcome development. This means that in some Member countries the fixed cost of joining the mobile network (installation and rental price) may be lower than the fixed cost of a fixed link telephone connection. In these instances a disabled or elderly person could use a cellular or personal communication service (PCS) as a mobile equivalent to a low user scheme available on some fixed networks. While at present this complements rather than substitutes for the fixed network, further competition should act to reduce prices and boost service innovation. It is notable that PCS, which has the potential to alter the conception of universal service, was first introduced into the competitive UK market.

22. The convergence of communication and information technology is also opening up new opportunities for users and PTOs in less glamorous markets, traditionally seen as part of universal service. The provision of payphones has sometimes been claimed to be a burden on PTOs, particularly given the high maintenance cost that has been involved. However, the introduction of competition has generally coincided with higher penetration rates and improved quality of service.
The three countries with the longest experience with facilities competition, Japan, the UK and US, are all placed in the top five Member countries by payphone density. Clearly the advent of facilities competition has extended an important aspect of universal service. At the same time the advent of card phones has improved the security of payphones and opened an array of new features making service increasingly attractive for operators.

23. It is of interest to note that countries with competitive markets are in several cases even thinking of extending the notion of universal service to cover a wider array of telecommunication services. For example, the potential of broadband communication services to enhance access to information is now being viewed as being an important universal service issue.

**Efficiency and employment**

24. Technological developments and improvements in efficiency have been leading to adjustment of occupational structures and a reduction in employment requirements within public telecommunication operators irrespective of whether they are monopolies or operating in a competitive environment. However, it is increasingly apparent that liberalised markets are best able to capture growth in new jobs. In those Member countries with the longest experience with liberalisation, Japan, New Zealand, the UK and US, it is demonstrable that telecommunication employment by new service suppliers and users, has largely offset jobs shed by incumbent PTOs. By way of contrast it would seem intuitively obvious that locking-out new market entrants and restricting the freedom of users in monopoly markets curtails the creation of new telecommunication jobs in these firms. In fact jobs seem to be growing fastest in the most competitive market segments. In the US employment in the long distance market has grown 18 per cent since 1987 and mobile communication has experience compound annual growth of more than 50 per cent over the past decade. On the other hand jobs are being shed in the provision of local services which remain a virtual monopoly.

25. Cost efficient modern telecommunication services also provide opportunities for new business. For example, in rural areas telecommunications can lessen the disadvantages associated with remote geographic locations and provide employment opportunities to these areas.

**Conclusions**

26. The success of infrastructure competition requires an active and efficient regulatory framework. There are a number of key areas which regulators need to emphasise in particular. The transition from a monopoly to a competitive market certainly requires regulatory oversight. There are a number of important issues which regulators need to tackle: one of these is the necessity of implementing a framework for interconnection and equal access which is transparent and non-discriminatory.
Another important area is numbering policy which is required in order to obtain direct access to operators. The requirement for operators to rebalance their tariffs based on cost-oriented pricing is also of importance in a competitive market framework. Experience indicates that these issues should be tackled in conjunction with industry restructuring and opening the market to competition.

27. While the gap between Member countries is narrowing in some traditional indicators of telecommunication development, other gaps are widening to such an extent that there is actually increasing disparity in performance. This raises the question of whether Member countries which restrict new service suppliers, who bring capital, expertise and a greater customer focus, will be able to achieve best practice service levels.

28. One example of a growing performance gap relates to measures of network access. An increasing number of Member countries are attaining telephone penetration rates approaching or equivalent to "best practice" benchmarks. While this is commendable, the data do not necessarily imply parity in the overall development of the provision of telecommunication services. This is because some Member countries are harnessing competition to boost mobile telephone access. Indeed a number of Member countries with competitive facilities provision have either crossed, or are approaching, the point where more mobile customers are being added than fixed customers. In other words Member countries without an efficient mobile market structure are missing out on substantial gains. By way of contrast, in liberalised markets, growing demand stimulated by competitive facilities and service provision is enabling formerly premium services to be used in an increasing range of commercial and social applications.

29. There are some who question whether there are risks from infrastructure competition in terms of overcapacity or overinvestment, but for a number of industry experts this is not an issue because of technological and new service development.

30. Policy developments in all OECD countries require that there is a much greater focus on the question of infrastructure competition and its related regulatory requirements. The decision by the European Union to abolish all telecommunication service monopolies, including voice communications, by 1998 with the right for some countries for a transitional period is one example. Preparation of a Green Paper on Infrastructure Competition by the European Commission is underway in this context. Another example is in the United States, where the Administration has proposed to eliminate over time all structural barriers to competition in telecommunications. The GATT is also exploring the possibility of including basic telecommunication services and infrastructure within a trade in services framework.

31. The cost of delaying telecommunication reform may be substantial. While telecommunication is a key enabling service for all economic sectors, its importance for other service industries is critical. The efficient delivery of telecommunication services plays an integral role in the increasing contribution the overall service sector makes to GDP in the OECD area. Accordingly an inefficient telecommunication sector places unnecessary strains on wider economic and social development.