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TOWARDS COST ORIENTATION

AND THE ADJUSTMENT OF PRICING STRUCTURES

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TELECOMMUNICATIONS TARIFFS IN THE COMMUNITY

COMMUNICATION FROM THE COMMISSION

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SUMMARY

In its Communication on the implementation of the Green Paper on the development of the common market for telecommunications services and equipment[1], adopted by Council with Resolution 88/C257/01 of 30 June 1988, the Commission set as a major goal the "progressive implementation of the general principle that telecommunications tariffs should follow overall cost trends". The Communication set a date of 1 January 1992 when progress concerning the attainment of this objective should be reviewed.

This Communication is submitted in response to that requirement.

Overall, this review of telecommunications tariffs finds that major adjustments have taken - and are currently taking - place in the Community. These changes are mainly due to the reforms that have followed the Green Paper of 1987, the increasingly competitive environment, and the resulting more commercial orientation of the Telecommunications Organisations. Such changes, which are on-going, make definite conclusions and the establishment of consistent data a difficult process. Moreover, because of the continuing lack of detailed, comparable cost information on telecommunications service provision in many cases, this review has concentrated on an analysis of tariff trends. In spite of these limitations, a number of statements can be made.

Progress towards cost-orientation has been made within the Community on national tariffs and, overall, tariffs have decreased in real terms by about 2% a year over the last decade, reflecting an overall decline in costs. But progress is uneven and generally seems to fall short of that required if consumers are to receive the full benefits of an efficient telecommunications sector. There will have to be an acceleration in adopting the principle of cost-oriented tariffs, through both pricing structures and price levels. Moreover, such actions will require, in most Member States, a more intensive and pro-active approach to tariff reform if they are to be effective.

In many cases the differences in tariff levels and structures between Member States reflect the political constraints and social obligations under which Telecommunications Organisations operate, particularly in the field of fixed and local call charges. While concerns for specifically needy groups such as the aged or the handicapped must be addressed, they should be catered for by more extensive use of specially targeted schemes. There should not be a general distortion of price structures, which inevitably leads to inefficiencies for the whole economy and substantially hinders the future development of the Community's telecommunications systems.

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1 COM(88)48, 2.2.1988

As a prerequisite to the actions outlined below, an increase in the transparency of pricing structures and levels will make an important contribution to consumers' understanding of the services available - and thus intensify the working of market mechanisms - and will enhance regulators' ability to effectively monitor market developments.

Changes in pricing levels towards greater cost-orientation is particularly needed for calls between Member States. The existing surcharge for intra-Community calls is impeding the rapid development, called for by Council Resolution 90/C27/05[2], of trans-national networks in the Community and does not allow telecommunications to make its full contribution to European integration.

Large business users of communications should be offered pricing structures matched to their requirements, including volume discounts where there are genuine cost savings by the operators. Similarly, the diminishing marginal cost of providing extra bandwidth must be reflected in the pricing of broadband services. Without this, broadband services will fail to evolve in the Community, with significant adverse consequences in the long term for Europe's electronics industry and for the European economy in general, relative to those of the United States and Japan.

Adjustments in pricing structures are also required to allow residential users to benefit fully from the technological advances that have been made in recent years. Disparities in effective call charges imposed on some telephone users by fixed call charge boundaries are avoidable through the use of flexible call zones which would allow them to reach more people at local call rates. This is particularly acute within rural areas and in areas straddling national borders where in many cases full international call charges still apply. Also, the more extensive use of night-time (ie off-peak) discounts would allow a higher loading of the networks, and at the same time substantially benefit residential users, particularly for intra-Community and international calls. Furthermore, it is possible to provide specifically targeted schemes for special and needy groups without generally distorting pricing structures and these should be made available on this basis.

Recent Community legislation is integrating a number of measures which will substantially support progress towards cost orientation and price adjustment.

The proposals for the application of Open Network Provision (ONP) to the major telecommunications services - particularly voice telephony[3] and leased lines[4] - which are

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2 Council Resolution of 22 January 1990 concerning trans-european networks (90/C27/05) OJ C27, 6.2.90, p. 8.

3........ Proposal for a Council Directive on the application of Open Network Provision (ONP) to voice telephony (to be submitted shortly).

either currently in progress in the Council and the European Parliament or which will be submitted shortly all include the establishment of consistent cost accounting systems by the Telecommunications Organisations and the orientation of tariffs towards costs as major principles.

However, at this stage, additional action can and should be taken by the Telecommunications Organisations, the Member States and, where appropriate, the Community in a number of priority areas.

These priority areas should be:

- increase transparency by publishing and making available to customers, all tariffs and subsequent changes;

- reduction or elimination as quickly as possible of the frontier element in intra-Community tariffs. Reduction or elimination should also be sought of current asymmetries between tariffs for a given communication between two countries, depending on which side initiates the call;

- more extensive use of price cap formulae as recently introduced in some Member States in the licenses or management contracts of Telecommunications Organisations in order to accelerate the progress towards cost orientation, at the national level but also for intra-Community and international calls and at the same time to give incentives to reduce costs;

- acceptance and use of discount tariff schemes, subject to the necessary conditions concerning transparency and non-discrimination, where economies of scale generate true cost savings in the provision of service to major users, and special consideration in this context of the needs of broadband pricing;

- accelerated use of flexible tariff zones in the Community, in particular near frontiers, in order to benefit the residential users in rural areas and stimulate better, including cross-border, integration;

- establishment of off-peak reductions on telecommunications tariffs (evening, night-time and weekend tariffs) on intra-Community communications on the same level and basis as national off-peak reductions;

4........ Proposal for a Council Directive on the application of Open Network Provision (ONP) to leased lines (COM(91)30) - SYN 328, 14.2.1991.

- more extensive use of special schemes for groups with particular needs, such as the aged or the handicapped.

Of particular importance in the setting of international tariffs is the settlement process and the role of international accounting rates agreed between the Telecommunications Organisations. The current, predominantly bilateral, approach to settlements gives rise to imbalances which are of growing international concern. Increasing international pressure to resolve this issue is to be expected and it is absolutely essential that a common position is determined for the Community.

Concerning intra-Community and international tariffs, a formal investigation is currently in progress by the Commission in the framework of competition rules of the Treaty. The conclusions of this investigation are expected to be reached before the end of the year.

The revenue base of the Community's Telecommunications Organisations must be safeguarded in order to allow them future network development. At the same time, however, the major tariff barriers towards increased use of Europe's telecommunications networks must be eliminated, in particular in the field of long-distance intra-Community traffic and emerging broadband services, essential for the closer integration of the Community's economy.

Emphasis needs to be placed on the fact that competition is a key means both of bringing about an overall reduction in tariffs and of ensuring that tariffs reflect efficient cost levels. A cost-oriented approach is necessary to facilitate the future development of European telecommunications. Measures taken in the sector must lead to lower cost-oriented tariffs and to the development of a more competitive and commercial environment.

These objectives should be major considerations in the general review of the situation in the telecommunications sector, to be completed in accordance with Council Directive 90/387/EEC[5] and Commission Directive 90/388/EEC[6] before the end of the year.

5........ Council Directive of 28.6.1990 on the establishment of the internal market for telecommunications services, through the implementation of Open Network Provision (90/387/EEC) OJ L 192, 24.7.90, p. 1

6........ Commission Directive of 28.6.1990 on competition in the markets for telecommunications services (90/388/EEC) OJ L 192, 24.7.90, p. 10

I INTRODUCTION

1. Council Resolution 88/C257/01[7] on the development of the common market for telecommunication services and equipment up to 1992 stated that the overriding objective should be to "develop the conditions for the market to provide European users with a greater variety of telecommunication services, of better quality and at lower cost, affording Europe the full internal and external benefits of a strong telecommunications sector" and "the development in the Community of a strong telecommunications infrastructure and efficient services".

2. Both the Telecommunications Green Paper[8] and the Commission's Communication to the Council on its implementation COM(88)48[9] advocated the "progressive implementation of the general principle that tariffs should follow overall cost trends".

   Council Resolution 88/C257/01 stated as an important aim the development "of efficient pricing principles throughout the Community while ensuring general service for all".The Communication COM(88)48 set a date of 1 January 1992 when progress on the cost orientation of tariffs should be examined. The present Communication, therefore, constitutes a review of the pricing levels and structures of telecommunications tariffs in the Community.

3. In preparation for this review, the Commission initiated the collection of comprehensive data on prices and usage patterns of telecommunications services in the Community and on international telecommunications traffic flows[10]. The review has also considered work in this field undertaken by the OECD and recent studies carried out by BEUC, the European Consumers Organisation.

   This review focuses on tariffs for telephone services and on leased lines as the two most important telecommunications services in the Community for both residential

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7........ Council Resolution on the development of the common market for telecommunications services and equipment up to 1992 (88/C 257/01, 04.10.88)

8 Green Paper on the development of the Common Market for Telecommunications services and equipment (COM(87)290, 30.06.87)

9 "Towards a competitive Community-wide telecommunications market in 1992 - Implementing the Green Paper on the Development of the Common Market for Telecommunications Services and Equipment / State of Discussions and Proposals by the Commission" (COM(88)48, 09.02.88)

10 "Telecommunications Tariffs Trends in the European Community 1980-1990", December 1991 and "International Telecommunications Traffic originated by the European Community, October 1991; studies undertaken for the Commission

and business users. Other services such as public switched data networks require a separate evaluation.

The reference period generally used for analysis is the period 1980 to 1991.

The Commission is also currently undertaking a separate investigation into international telephone prices in the Community within the framework of its mandate under competition law[11]. The Commission will draw its conclusions with regard to this investigation at a later stage.

II BACKGROUND

4. The past decade has seen considerable changes in the telecommunications service sector of the European Community. Network extension and penetration has continued at a Community average growth rate of about 5% a year in terms of main exchange lines per population served. At the same time, significant network modernisation, including digitalisation, has been taking place.

5. Revenues of the telecommunications operators in the Community have increased by about 4% a year in real terms; by almost 10% a year in nominal terms (Exhibit 1).

Judging by the situation in other economies with advanced telecommunications networks, these trends are set to continue and indeed magnify.

Total revenues of the Telecommunication Organisations in the Community for 1990 are estimated to be 88 billion ecu. Nearly 85% of this revenue derives from services associated with the provision of public switched telephony, although other service areas such as leased lines, data communications, certain value-added services and mobile services have been growing fast. On average for the Community, about 45% of telephony revenues are accounted for by business use even though business subscriber lines only account for an estimated 26% of total lines.

Over the last decade, PSTN (public switched telephone network) traffic originating in the Community has increased annually by just over 6%. International PSTN usage in the Community is currently increasing by about 14% a year (both for intra and extra Community traffic).

11 The Commission issued a press release on 10 May 1990.

III PROGRESS TOWARDS COST ORIENTED TARIFFS

6. A number of features are apparent in telecommunications tariff trends in the Community over the last decade that indicate progress towards cost orientation and flexibility in pricing structures at a national level.

With respect to cost, a number of developments have lowered costs of telecommunications provision. The widespread introduction of international direct dialling has substantially reduced costs for international calls, reductions in transmission costs have made costs less sensitive to distance and higher call volumes have lowered overall costs, particularly for international services.

Because of the difficulty inherent in analysing the evolution of the cost of providing telecommunication services over the period considered, definitive statements can only be made at this stage concerning tariff trends.

Overall, during the period 1980 to 1991, telecommunications services tariffs have, on a Community average, declined by about 2% a year in real terms, which seems to approximately reflect a similar overall decline in costs[12].

Reductions are apparent in most Member States for switched telephony services in connection, rental and call charges, though to varying degrees (Exhibit 2). Over the decade, connection charges have declined on average by around 39% in real terms and long distance prices by about 29%. Changes in rental charges are more diverse owing to the significant increases that have occurred in residential charges, bringing them closer to business rates, in some countries.

Reductions are also noticeable in both the rental and connection charges for analogue leased lines (Exhibit 4).

7. The relatively larger reductions in the price of longer distance services, apparent in switched telephone services and analogue leased lines, reflect the decreasing sensitivity of telecommunications costs to distance. For example, using an unweighted average for the Community, the ratio of the price of the longest national three minute call to the price of a local three minute call has declined from about 16 in 1980 to about 11 in 1991. However, wide differences remain in prices to residential users with respect to connection, rental and call charges (Exhibit 3).

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12 If tariffs follow cost trends, overall tariffs should decline in real terms and international and long-distance tariffs should decline relative to fixed or local ones. In fact, tariffs or pricing structures were not necessarily in line with costs to begin with and in any case, different countries have had different priorities with respect to the balance between access and usage tariffs.

8. A definite trend in rebalancing between fixed (ie connection and rental) telephone charges and variable callcharges is not discernible from the available data, with the exception of one Member State (see Exhibit 2). Connection and rental charges are, by their very nature, of major concern to users (special tariff packages notwithstanding), as a recent report from the European Consumers Organisation[13] emphasises.

9. A move towards cost-orientation also seems to be indicated by the change in most countries from flat rate to time dependent tariffing for local calls. In 1980, only in Denmark, Germany and the UK were local calls tariffed on a time dependent basis. The conversion from flat-rate was made in Italy in 1983, in Belgium, France and Holland in 1985 and in Portugal (for the Lisbon and Porto areas in peak time) in 1988. In 1991, the two tiers for local tariffs in Spain were combined into a single metropolitan zone with a common time dependent tariff.

10. Further trends are apparent that indicate the beginning of an adjustment of tariff structures to market demand and special requirements.

    There has been a tendency to increase the number of "time of day" bands in order to spread peak load traffic and to discriminate between types of users on price. In this way, efficient use of the network is improved and lower tariffs can be offered at certain times of the day, in addition to the usual night-time and weekend reductions.

    Moreover, some operators have introduced special tariff packages for users with specific needs. These may take the form of higher rental charges and lower traffic charges for high traffic volume users. The converse situation may be found for low volume users where rental or initial traffic charges, or both, are relatively low but charges rise steeply after a certain traffic volume. An example of the former is France Telecom's "Traffic Plus". An example of the latter is "Supportline", a low user scheme from BT which commenced in 1991.

    Another development in pricing adjustment is the practice of reflecting in tariffs the cost savings associated with high traffic volumes. An example of this is the lower tariffs offered on high volume routes by some Telecommunications Organisations.

    One other important trend in a number of Community countries is the move towards enlarged local tariff zones. In some cases there has been experimentation with flexible local geographic tariff zones. Larger local zones have meant that increasing

13 "Telephone services in the EEC", BEUC/CB/336/91, September 1991

numbers of people have been able to benefit from the potential advantages associated with an increased effective subscriber base in their local exchange or billing area.

11. This last phenomenon is in part due to technical changes in networks where it is becoming both increasingly cost effective to switch traffic further away from customers' premises and increasingly possible in technical terms to adopt moving tariff zones. It is also due to the desire by operators to adopt moving tariff zones to deal with some of the undesirable anomalies which have arisen in tariffing calls between neighbouring subscribers which traverse geographical zones.

12. The trends and developments cited above constitute significant progress towards cost orientation and pricing flexibility of tariffs. They also reflect an increasingly commercial approach by service operators and a growing recognition of customers' different requirements.

IV THE SURCHARGE FOR CROSSING NATIONAL BORDERS IN THE COMMUNITY

13. In examining tariffs for telecommunications services between Member States it appears that users continue to be faced with a significant surcharge when crossing a national border. The importance of national borders as a factor in tariff-setting should diminish for two reasons.

A key political as well as economic goal of the Community's Single Market is that an internal frontier should not insert an extra dimension into the private or business dealings of individuals or enterprises in the Community. This same goal should encompass the prices of telecommunications services.

The second reason is that the cost of telecommunications is becoming less sensitive to distance as switching and, more particularly, transmission costs decrease. Prices should not be unduly affected by the extension of a telecommunications service across a national border.

14. There are several components to the cross-border surcharge.

Firstly, there is a "frontier effect" whereby a three minute call in peak time from one Member State to another is on average between 2.5 and 3 times the price of the most expensive national long-distance call, despite the geographical distances often being comparable (Exhibit 5). In off-peak periods the contrast ratio is between 5 and 6 thus penalising residential users especially.

Secondly, the price of a call in one direction within the Community often differs significantly, up to a factor of two, from the price in the opposite direction (this "two-way effect" is shown in Exhibit 6). Such special differences are open, in principle, to arbitrage by the use of "call-back" or by reversing the direction of the call[14].

Thirdly, although some special local cross-border telephone tariffs already exist in the Community (Exhibit 7), full international rates are still charged elsewhere. The special arrangements which exist are the result of bilateral agreements between the national operators concerned and include the necessary arrangements on numbering and switching as well as billing.

Fourthly, there is still a lack of night-time and weekend tariff offerings for international telephony. In the vast majority of Member States, off-peak reductions on national calls in the Community range between 32% and 69% whereas reductions for intra-Community calls are at most 33%. Three countries (Denmark, Greece, and Portugal) offer no off-peak tariffs to other Community countries (Exhibit 8).

Another concern that has been voiced regarding telephony tariffs is the lack of a single tariff zone for international intra-Community calls. Four operators (Germany, Greece, Spain and France) tariff intra-Community calls as a single group. Whilst it is desirable that transparency in the use of tariff zones is enhanced, trade-offs may exist between price and simplicity - operators with a single tariff zone are not necessarily the cheapest as Exhibit 6 demonstrates. In any case, for reasons of both supply (general cost conditions) and demand (traffic volumes), it would not automatically be expected that tariffs from one Community country to the rest of the Community would be uniform.

15. To summarise, cost orientation of tariffs seems to have proceeded less quickly for intra-Community telecommunications services than for national services. A number of anomalies are present and those who are intensive users of intra-Community telephony communications are particularly penalised.

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14 This process can be automated and exploited commercially as is now the case in the international arena with International Discount Telecommunications in New York. IDT operates a computer assisted telephone exchange which automatically calls back and re-routes calls when dialled by authorized users.

V INTERNATIONAL ACCOUNTING RATES

Role of International Accounting Rates

16. One key element that affects tariffing in an international context is the accounting rate. This is used as the basis of revenue sharing between the Telecommunications Operators that provide the facilities required for an end to end switched international telecommunications service. The revenue sharing or settlement procedure involves the division of the accounting rate between the operators in the originating, terminating and, where necessary, transit countries.

The accounting rate and settlements procedures which are in operation worldwide derive from a detailed set of rules, recommendations and arrangements emanating from the Convention of the International Telecommunications Union (ITU), the accompanying International Telecommunications Regulations or Administrative Regulations, the International Telegraph and Telephone Consultative Committee (CCITT) of the ITU and the various bilateral agreements between service carriers or operators in different countries.

The underlying philosophy of the accounting rate has been that it should reflect the cost of an international telecommunications service between the two parties concerned, including the cost to transit countries. The choice of revenue division or sharing of cost may be based on a procedure whereby the destination and transit countries are remunerated according to the facilities made available (either on the basis of a flat rate annual price per circuit or on the basis of the actual traffic units carried), or by a procedure whereby accounting revenue is shared between the operators concerned.

17. In principle, an internationally agreed and well-functioning accounting and settlement procedure has a number of important benefits. First of all it sets out the procedures for the fair and orderly settlement of accounts on a periodic basis between telecommunications operators. Secondly, it provides a framework within which the details of cost of access to other networks can be established, thereby saving on the potential transactions costs of establishing a large number of bilateral or multilateral, where transit is involved, agreements. Thirdly, it can provide safeguards in situations where certain asymmetries exist between countries, for example where one country has a number of international operators.

However, the efficient working of the international settlements system is handicapped if the accounting rates which under-pin it are not revised as costs change.

Relaxation of International Accounting Rate Constraints in Europe but Problems Remain

18. Accounting rates can limit the lowering of international tariffs because of the need to take into account settlement fees when determining prices. The failure to revise accounting rates in a world where costs are declining substantially leads to constraints on the ability of operators, who so wish, to lower tariffs in line with costs and presents incentives to try by-passing the system. These incentives exist both for operators who see the possibility of making substantial profits by providing end-to-end international telecommunications services and for large users who face bills which are large relative to their telecommunications usage.

    There is also an incentive for users who face the high tariffs to migrate to cheaper private solutions. Such migration might not always take place if users faced tariffs which more fully reflected cost. In other words, migration may not always be an efficient solution, merely a response to prevailing tariff structures.

19. It is estimated that 12,200 million minutes of international PSTN traffic was originated within the Community in 1990. Around 55% of the traffic (6,800 million minutes) was destined for another Community country. However, the balancing amount of traffic (ie the sum of either net inflows or net outflows) over a year is only about 280 million minutes because of the relatively balanced nature of traffic flows within the Community. Only two Community countries (Italy and Portugal) appear to have net traffic inflows which are significant. It is estimated, therefore, that settlement payments for international telephony within the Community are relatively small with respect to intra-Community telephony revenues and no obvious incentive exists for the maintenance of artificially high accounting rates.

20. Rates for international telecommunications services in the Community are established within a regionally specific set of CCITT Recommendations for the countries of Europe and the Mediterranean Basin and are based on cost studies undertaken by the TEUREM group[15].

    In 1991, peak rate tariffs in the Community ranged between 0.45 and 1.1 ecu per minute while accounting rates appear to have ranged between about 0.3 and 0.6 SDRs per minute (equivalent to around 0.34 and 0.67 ecu).

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15 CCITT is the International Telegraph and Telephone Consultative Committee of the International Telecommunications Union. TEUREM is the group of regional telecommunications Administrations for Europe and Mediterranean Basin which multilaterally agrees accounting rate arrangements for the region

Accounting rate levels are expected to decline in Europe over the next four years. Rates have been cut by 10% at the beginning of 1992 and there are proposed cuts of 50% cumulative over the period 1993 to 1996[16].

In addition, changes have been made to CCITT Recommendation D-300R which applies to telephone relations between countries in Europe and the Mediterranean Basin - (the TEUREM group)[17].

The present margin between accounting rates and peak rate tariffs, combined with the prospective reductions of accounting rates in Europe, therefore, provide the potential for substantial downward movement in intra-EC tariff levels.

However, in the particular case of local cross-border calls, accounting rates may continue to impede the lowering of both peak and off-peak tariffs unless special arrangements are negotiated.

21. For inter-continental calls, accounting rates tend to be significantly higher than those within Europe. Although rates for some bilateral relations are changing fast, a particularly difficult situation prevails in some areas of intercontinental telephony; substantial net outflows of calls lead to substantial deficits in payment. This is particularly the case for the United States.

The United States can be expected to exert substantial pressure for change in this area. This could substantially influence telecommunications development as regards both transatlantic traffic and many of the developing countries.

VI FUTURE CHALLENGES

A number of challenges will have to be met if the development potential of telecommunications is to be secured.

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16 Original proposals were for accounting rate decreases of 35% starting in 1993 leading to an accumulated decrease of 49% in 1996

17 The first change is to drop reference to the accounting rate share payable to the origin country so that the accounting rate more obviously ressembles a remuneration to transit and termination operators. The second is to drop references to "K" factors, the link between accounting rates and collection rates or tariffs. Section 3.3.1 of D-300R states that K, the factor by which the accounting rate should be multiplied by to determine the collection charge, should not exceed 1.8.

Pricing Methods and Principles

22. For a long time, the major share of telecommunications services in the Community have been provided by operators with exclusive or special rights. Hence, prices of the most important services, in particular voice telephony and leased lines, are controlled and overseen by governments and national regulatory authorities.

23. Network penetration levels are still growing, and technology is providing the potential for a much wider variety of services to be offered. Consequently, a number of new concerns arise for operators and for the authorities who regulate them. These concerns involve striking an appropriate balance between ensuring efficient investment and operation, encouraging service innovation and choice, achieving prices which reflect costs, and dealing with social concerns, including network access for groups with special needs. In addition, the range of customers' requirements using telecommunications services is becoming much more diverse.

Pricing methods or principles have been developed, therefore, to deal with both the control of pricing by operators with exclusive or special rights and the pricing problems that arise when areas of service provision have been opened to limited or competitive entry[18].

New regulatory methods have been developed to assess whether dominant operators are charging excessive or predatory prices or are unfairly subsidising certain business areas to the detriment of competitive service providers. Such methods include "constrained market pricing" and net revenue tests[19].

24. Relating prices to cost in some particular way is relevant, therefore, both in exclusive market provision and where entry is allowed. Moreover, aligning prices with costs as far as possible means that competitive entry can take place for efficient rather than inefficient reasons. It is also important to note that entry tends to push prices towards costs and indicate what efficient cost levels might be. A policy of "cost-orientation" is consistent with the above and allows latitude on pricing to deal with particular considerations, such as the recognition of specific demand conditions or

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18 Community competition rules apply to the provision of telecommunications services. See "Guidelines on the application of EEC competition rules in the telecommunications sector", (91/C 233/02) OJ C 233, 06.09.91, p. 2

19 Constrained market pricing suggests that prices should be set neither above stand alone cost (overpricing) nor below incremental cost (predatory pricing). A net revenue test is based on the principle that the pricing of a new service that has some substitution effects on existing services should be such as to increase overall revenue if the danger of unfair cross-subsidisation is to be avoided.

supply requirements. Such conditions or requirements might equally include discounts for high volume usage or the need to provide access for different geographical locations on a non-discriminatory basis.

Applying the concept of marginal cost pricing[20], generally accepted as being the appropriate concept in order to maximise economic welfare, to telecommunications services does create difficulties. Common costs and fixed costs (including "sunk" costs) are a significant part of the overall cost of telecommunications services provision. Considerable economies of scale and scope, therefore, arise and setting price equal to some definition of marginal cost would not normally generate sufficient revenue to cover total cost.

25. Other "good practice" methods of pricing have consequently been developed. These methods[21] involve "marking up" marginal cost prices in such a way as to cause a minimum distortion of consumption patterns. Marking up, therefore, takes place in inverse proportion to elasticity of demand. Apart from measurement problems and the difficulty of applying such methods, undesirable distributional effects may also arise.

Because of the difficulty inherent in applying some of these "best-practice" methods, other solutions have been developed by governments and regulatory bodies in order to constrain the pricing behaviour of operators in dominant positions. The most common method has been to require a distribution of costs between the regulated and the unregulated parts of the business (fully distributed costs) and to impose limits on profitability or rate of return.

26. The requirement to make the allocation of costs transparent, either by using fully distributed methods or by using other acceptable cost allocation systems, is incorporated in the proposals currently in process for the application of Open Network Provision for voice telephony and leased lines.

Additionally, price caps[22] have been instituted as simple and transparent ways of controlling price changes while at the same time leaving operators incentives to

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20 In practice, long-run average incremental cost is a reasonable principle to apply in order to give the appropriate price signals for optimising future investment.

21 Essentially they are derivations of the Ramsey pricing rule.

22 Price capping implies an agreement or obligation that prices are kept a certain number of percentage point below an agreed price index, such as the Consumer or Retail Price Index (RPI). In this way it can be seen as a mechanism to hand on in a controlled manner productivity gains in the provision of services to the telecommunications user.

reduce costs and improve efficiency and, in some cases, latitude to modify relative prices of different service products.

Following Downward Cost Trends

27. Investment in fibre transmission and in digital switching combined with increased demand for telecommunications services is continuing to lower unit costs. These and other technological developments are not only changing cost structures but also enhancing service provision so that new services can be marketed.

    It is generally expected that many cost elements in the provision of telecommunications services will continue to decline in the future due to increased efficiency brought about by the discipline of price caps and greater competition, increased traffic volumes and the direct lowering of many input prices.

28. With respect to input prices, one of the motivations of the Community's Directives on terminal equipment and public procurement in the telecommunications sector has been to inject the benefits of greater competition and scale economies in converging European markets into the equipment sector, in order that these benefits might pass on to the service sector and the rest of the economy.

29. Also, as described earlier, reductions are expected in accounting rates within the TEUREM area. Hence, the way is open for substantial cuts in international intra-Community tariffs. However, it is important that national regulatory authorities exert sufficient pressure to ensure that international tariffs fall towards cost levels or that market forces provide additional mechanisms to achieve more efficient and cost-oriented intra-Community services.

    For transatlantic traffic and other international routes, the substantially increased transmission capacity through deployment of highly efficient optical fibre cables is leading to a substantial change of cost structures. Increased competition in this area will lead to changes in prices for transatlantic services with important repercussions for Europe's overall pricing structures.

National differences

30. In a single Community market, it is a basic principle that an international, intra-Community call should be priced on a comparable basis to a similar distance national call, except to the extent that specific additional costs are involved or that demand conditions are significantly different.

Despite the anticipated continuation of cost decline and the convergence within the equipment sector, the costs of constructing, developing and operating networks in different countries will not necessarily be the same. Differences exist in topography and population density, in input costs and through the effects of varying historic costs. Levels of network penetration and rates of digitalisation are still highly differentiated within the Community and some operators are undertaking large investment plans, particularly for the peripheral regions, to address specific modernisation goals.

30. In the past, some operators have made, and been allowed to make, large profits on international telephony. Although such profits have in many cases been used to help to subsidise local access, a policy of maintaining high international telephony tariffs over the next five years seems neither to be sustainable nor acceptable.

Not only does it reduce any pressure to improve efficiency in this market segment but it attracts the attention of users and, more notably, potential competitive operators who are waiting to enter the market. Moreover, it may be ignoring some fundamental considerations of elasticity and substitution effects with respect to the pricing of international telephony and withhold substantially development.

Tariffs and the Introduction of New Services

32. Technological developments, increases in competition and the evolving needs of users will lead to a widening range of new services becoming available. In particular, the broadband provision of services (voice, data and images) over the same network is beginning. The creation of a multi-service environment where the commercial dimension takes on increasing importance and where there is the growing possibility of substitution effects poses some particular problems for pricing.

Firstly, the launching of a new service raises particular questions both in terms of the pricing that is appropriate to ensure successful take-up in the marketplace and in terms of the considerable start-up costs that might be incurred. Consequently, it requires a flexible view to be taken of how cost-oriented pricing should be applied.

Secondly, with the possibility of substitution, there are migration effects to be taken into account. Relative prices not only play a key part in the successful take-up of the new service but also in the scale of any revenue losses that might be incurred by the existing services.

33. In this context, major questions remain concerning the pricing of broadband services. While technically these services are becoming available, a number of countries maintain pricing structures which makes a major take off impossible. For example,

published annual prices for 2 Mb/s leased lines[23] in the Member States varied between 54,000 and 520,000 ecu in 1990[24].

Failure to adjust pricing structures to the new broadband opportunities threatens to substantially reduce the take up of new broadband opportunities such as those developed in the context of the Community research programmes, in particular the RACE programme. Pilots such as the EBIT network have been unable to develop rapidly because of the lack of adequate pricing structures. If this situation is not changed rapidly, Europe will suffer a substantial set back with regard to the United States and Japan in the race for the entry into the new telecommunications age.

VII REQUIREMENTS FOR CHANGE

Change will be needed in a number of areas.

Increase transparency

34. The pursuit of cost orientation and implementation of pricing flexibility requires an understanding of cost structures and the way they are changing. Adequate transparency, in terms of the detailed publication of tariff data and the establishment of consistent cost accounting systems, is therefore a vital step towards this goal.

    Transparency is a major objective in the application of Open Network Provision (ONP) principles. Two areas in which this is most relevant are leased lines and voice telephony[25].

35. With respect to leased circuits, the Council adopted a Common Position in December 1991 on the Directive on the application of ONP to leased lines[26]. In accordance with the Directive, all leased lines will be subject to usage and supply conditions that are transparent and published in an appropriate manner. Moreover, Member States will be required to ensure that tariffs for leased lines follow the basic principles of cost

23 2 Mb/s is the largest bandwidth leased line currently provided in the Community as a standard offering. Discrepancies are substantially larger for special offerings of higher bandwidth.

24 Based on a 200 km link. Price includes connection charge amortised over three years and rental charge.

25 The Commission has also proposed to Council Recommendations on Packet-Switched Data Services (COM(91)208, 07.06.91) and the Integrated Digital Services Network (COM(91)509, 13.12.91) which integrate the principle of cost orientation and recommendations on tariffing.

26 Proposal for a Council Directive on the application of open network provision to leased lines (COM(91)30 - SYN 328, 14.02.91)

orientation and transparency and that tariffs are set independently of the type o application which users implement.

Because telecommunications organisations will be required to put into practice a cost accounting scheme that enables the above principles to be implemented, it is to be expected that leased circuit prices will increasingly come to reflect the underlying cost of provision.

36. With respect to voice telephony, the Commission will present shortly to Council a proposal for a Directive on the application of ONP to voice telephony[27]. One of the broad aims of the Directive will be to establish the rights of users with respect to the supply of telephony service of a defined quality. These rights include targets for network access supply time and service quality (plus the right to compensation) and access to a minimum set of advanced telephony features. Also there is the requirement to establish cost accounting principles and billing transparency.

Reform international tariffs

37. There are two key aspects to reforming international tariffs. The first is whether accounting rate levels remain substantially above costs. If so, prices will be kept too high. Secondly, once accounting rates accurately reflect costs, there will still be a need to apply downward pressure on price levels.

The inquiry on international telephone prices launched by the Commission in 1991 in the framework of Community competition rules is not yet concluded. It is examining whether the setting of international telephone prices in the Community infringes competition Articles of the Treaty. In the event that it finds an infringement, the Commission may by decision require the undertakings concerned to end such an infringement.

The issue of accounting rates and their influence on international tariffs is of concern not only within the Community but also on a world level. There is an ongoing debate, primarily within the frameworks of the CCITT and the OECD, to reduce accounting rates with pressure being applied most strongly by the USA. Outside of the TEUREM area, settlement agreements are mostly made on a bilateral basis and phased reductions in transatlantic accounting rates have already been negotiated with some Member States. It will be important that distortions within the Community are avoided in pursuing reduced international telephone prices.

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27 Draft Proposal for a Council Directive on the application of open network provision (ONP) to voice telephony (to be submitted shortly)

Accelerate the use of Price Caps

38. While it does not afford all the efficiency gains resulting from full liberalisation, price capping is one way in which downward pressure can be applied to tariff levels, in a situation where services are not fully liberalised.

Within the Community, the UK has had extensive experience of a formalised price cap (which is applied to the dominant operator), although controls on price increases are also defined in the Netherlands and Denmark and a price cap of RPI-3 has been introduced in France for the period 1991-94 in the context of the management contract concluded between France Télécom and the State.

In 1991, the BT price cap was extended to international telephony and re-formulated as RPI-6.25. Considerable latitude exists on the balance of price reduction between international destinations and between international telephony and other service prices. Nevertheless, the capping does appear to have already had some positive effects on international European tariffs.

As the process of separating regulatory and operational activities in telecommunications continues in Community countries, more national governments and regulators will adopt price cap systems. This should pave the way for increasing yard-stick competition between operators even if they are not all starting from the same position in terms of prices and costs.

Adjust price structures to the market

39. Adjusting pricing structures to incorporate more flexibility has the potential to address a number of concerns and in particular to increase network use and benefit users, although it requires careful consideration by operators and regulators.

For example, the introduction of flexible tariff zones can substantially increase the number of people which the subscriber may reach at local call rate and therefore increase residential telephone use and create more equity between rural and urban areas. Also, the extension of off-peak (in particular night time and week-end) reductions can significantly improve load balancing on the network and, at the same time, create major benefits for residential users especially.

40. Price flexibility also has a further, central role to play in the development of new services; examples are advanced telephone features such as call-waiting, call-forwarding and call-back-when-free which can be easily provided in a digital network

environment, and which can be marketed as individual services to residential customers.

41. Finally, a flexible approach to pricing is indispensable in the provision of large transmission capacity if high bandwidth communications such as LAN-LAN interconnection, vital for the further development of the European electronics markets, are to take off. Technological developments mean that significant increases in transmission capacity can be provided at smaller and smaller marginal cost. Pricing flexibility extended to the tariffing of large bandwidth capacity is the necessary initial step for the take-off of pan-European broadband services.

    Large users (residential as well as business ones) are already being offered volume discounts or optional tariff plans (different combinations of fixed and usage tariffs) in some countries. Such practices are perfectly in keeping with efficient pricing methods if there are genuine cost savings and provided they are offered on a non-discriminatory basis. Pricing policies of this type must satisfy the requirements of Community competition rules and must be in accordance with the principle of transparency. Publication of all tariff offerings will further encourage non-discriminatory pricing behaviour.

Re-evaluate the competitive environment

42. In a market economy, competition is the fundamental force in the movement of price levels.

    The general review of competition in the telecommunications sector in the Community will, among other objectives, assess whether the degree of competition in the Member States and the Community as a whole is sufficient to drive service provision and tariffs in the right direction. Particular attention will have to be paid to those areas where the major anomalies exist, in particular in long distance services.

VIII PRIORITY AREAS FOR ACTION

43. In a number of areas, immediate action could and should be taken:

    - establishment of full transparency in tariff setting. Tariffs and tariff structures, and any changes made should be published and made available to customers;

    - reduction or elimination as quickly as possible of the frontier element in intra-Community tariffs. The crossing of a border within the Community should not introduce a significant extra price element relative to the price of a similar long-distance national communication. Reduction or elimination should also be sought of current asymmetries between tariffs for a given communication between two countries, depending on which side initiates the call;

- while it does not afford all the efficiency gains resulting from full liberalisation, more extensive use of price cap formulae, as recently introduced in some Member States in the licences of telecommunication organisations or their management contract, in a situation where services are not fully liberalised, in order to accelerate the progress towards cost orientation, at the national level and also for intra-Community and international calls;

- acceptance and use of discount tariff schemes, subject to the necessary conditions concerning transparency and non-discrimination and careful scrutiny under competition rules, wherever economies of scale generate true cost savings in the provision of service to major users (special consideration should be given, in this context, to the needs of broadband pricing);

- accelerated use of flexible tariff zones in the Community, in particular near frontiers, in order to reduce anomalies in tariff zoning. This should benefit residential users especially in rural areas and stimulate better, including cross-border, integration;

- establishment of off-peak reductions on telecommunications tariffs (evening, night-time and weekend tariffs) on intra-Community communications on the same level and basis as national off-peak reductions;

- more extensive use of special schemes for the most needy groups such as the aged, physically handicapped people and those on low incomes.

44. A number of these priority areas have been dealt with in the draft ONP Directive on Voice Telephony which will be submitted to Council shortly. Developing pricing flexibility will of necessity be a matter for the Telecommunications Operators themselves, subject to appropriate regulatory oversight.

Concerning intra-Community tariffs, the Commission is currently examining whether the setting of international telephone prices in the Community infringes Competition Articles of the Treaty. The need for further measures will be addressed in the general review of the telecommuncations sector to be undertaken before the end of 1992.

IX CONCLUSIONS

45. This review of tariffs shows progress towards cost orientation and the beginning of the adjustment of pricing structures to the new market requirements in the Community. However, current moves should be accelerated.

The basic fact remains that Europe, relative to the United States, under-utilises its telecommunications networks. In the United States, revenue per main line in 1990 was over 900 ecu, while in the Community it averaged only 630 ecu, in spite of substantially lower telecommunications prices in the United States in many cases[28].

A major contribution towards higher use of European networks, and ultimately more revenues, must be the acceleration of cost orientation and adjusting pricing structures to the market requirements of both business and residential users.

The primary bottleneck remains intra-Community telecommunications which continue to be overpriced and underdeveloped. Overcoming this major weakness, while maintaining and expanding the revenue base of the Community's Telecommunications Organisations and future network development, must be a focus of the general review of the competitive situation in the telecommunications sector which the Commission will undertake in accordance with Directives (90)387[29] and (90)388[30] before the end of 1992.

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28 A long distance call in the US, between New York and Boston, is charged at 0.63 ecu including tax at peak time, while comparable national calls in the Community are on average 0.94 ecu, including tax.

29 Council Directive on the establishment of the internal market for telecommunications services through the implementation of open network provision (90/387/EEC) OJ L 192, 24.07.90, p. 1

30 Commission Directive on competition in the markets for telecommunications services (90/388/EEC) OJ L 192, 24.07.90, p. 10

ANNEX

TARIFF TABLES

Explanatory Note on Tariff Comparisons

The tariff data included in this annex has been taken from reports to the Commission and from other publicly available information sources.

When evaluating or comparing telephony tariffs consideration must be given to each of the separate elements that determine the price of any specific call and also the overall bill of any given subscriber. Main elements typically comprise: a connection charge, a periodic service or line rental charge, and traffic charges which are variable and depend on usage. Where terminal equipment is not owned by the subscriber an equipment rental charge may also apply.

In Member States connection and rental charges are sometimes distinguished by type of subscriber (business or private) or by the number of subscribers in a local calling area. Usage charges usually vary significantly according to time of day, by whether the communication is considered to be local, national or international and by the charging structure and mechanism of the Telecommunications Organization concerned. Finally, value-added tax is usually imposed although this is not yet the case for all telecommunications services in all Member States. This tax is payable by residential users but is typically reclaimable by businesses.

The use of "tariff baskets" is one way to combine the effects of certain of these variations. However, they have a number of drawbacks, particularly when used to make international comparisons between countries with different pricing structures and calling patterns. Therefore a simpler approach has been used in this annex.

Comparisons of fixed charges have generally been made on the basis of the charges to residential users in the capital city of each Member State. Variable charges are on the basis of the price of three minute peak-rate telephone calls. Value added tax has been taken into account, again to reflect prices to consumers.

It should be noted that tariffs are subject to frequent change and indeed the rate of change of tariffs in the Member States of the Community is increasing. The following tables generally represent the tariff situation to November 1991 and changes in tariffs since this date are not reflected.

Exhibit 1: Growth in Main Telephone Lines and Telecommunications Service Revenue 1980 to 1990

	Main Telephone Lines[1] (per 100 population)		Telecommunications[2] Service Revenue (million ecu)	
Country	1/1/80	1/1/91	1980	1990
B	24	40	930	2,160
DK	42	58	570	1,800
D[3]	26	49	10,320	19,140
GR	23	39	390	910
E	18	31	1,900	6,380
F	25	49	7,930	16,530
IRL	13	27	240	1,000
I	21	38	3,660	14,610
L	35	48	53	147
NL	33	47	1,670	4,280
P	10	21	330	1,180
UK	29	46	7,260	19,730
EC Weighted Average or Total	25	43	35,230	87,860

1 Source ITU/CEC estimates

2 Source ITU total income from all telecommunications services/CEC estimates. Columns show nominal revenues in 1980 and 1990 ECU respectively.

3 Figures for former German Federal Republic. At 1/1/91 there were an estimated 12 main lines per 100 population in the former German Democratic Republic.

Exhibit 2: PSTN prices have generally declined in real terms

Percentage changes in PSTN connection, rental and call charges for consumers, including tax - 1991 relative to 1980.[1]

	Percentage change in prices 1991 relative to 1980			
Country	**Connection charge**	**Rental[2] charge**	**Local call[3] charge**	**National call[4] charge**
B	-53%	-23%	-36%	-20%
DK	-18%	+7%	+61%	-41%
D	-76%	-32%	-25%	-55%
GR	-47%	+145%	-4%	-4%
E	-20%	+134%	+117%	-31%
F	-81%	-56%	-23%	-44%
IRL	-43%	+16%	-9%	-9%
I	-49%	+168%	-25%	-20%
L	-36%	-21%	+6%	+6%
NL	-24%	-30%	-18%	-35%
P	-45%	-34%	-33%	-33%
UK (BT)	+26%	-3%	+20%	-67%
EC Average (unweighted)	**-39%**	**+20%**	**+3%**	**-29%**

1 National currency values at 01/01/1980 converted into 01/11/1991 national currency, taking into account changes in consumer price indices in each case. Percentages take into account changes in value added tax on telephone services which have occured during the decade.

2 Billing periods are currently monthly in Germany, Luxembourg and Portugal, bimonthly in Belgium, France, Greece, Italy, Netherlands and Spain, and quarterly in Denmark, Ireland and the UK. Charges apply in the capital city in each case.

3 Calls are 3 minutes long at peak rate

4 Longest trunk rate call, 3 minutes at peak rate

Exhibit 3. PSTN prices to residential users are still subject to wide variation across the Community

PSTN prices to residential users, including value added tax, in ECU[1] at 01/11/91. Call price comparisons are based on lengths of three minutes at peak rate. However, care should be taken in interpreting differences.

In particular, different sizes of local calling zone and differences in metering intervals make direct comparisons difficult.

Similarly, comparisons of national call prices must take into account variations in distances for most expensive national calls and in tariff structures.

	Connection Charge	Bimonthly[2] Rental	Per 3 Minute Local Call	Per 3 Minute[3] National Call	
B	98.8	19.2	0.14	0.71	(Inter-zone)
DK	226.8	24.3	0.15	0.30	(Trunk)
D	31.8	24.0	0.11	0.96	(>50km)
GR	231.5	10.8	0.03	1.13	(>160km)
E	217.3	18.6	0.07	1.25	(National)
F	35.8	11.2	0.21	1.15	(>100km)
IRL	160.7	26.8	0.15	1.35	(>80km)
I	142.3	13.2	0.09	1.54	(>120km)
L	59.3	11.9	0.12	0.12	(Inter-sector)
NL	91.0	18.4	0.07	0.26	(Trunk)
P	68.2	16.5	0.05	1.19	(>50km)
UK (BT)	233.1	20.6	0.28	0.70	(>56km)
EC Average (unweighted)	**133.1**	**17.9**	**0.12**	**0.89**	

1 Conversion rates used: 1 ECU = 42.14 BEF; 7.938 DKR; 2.047 DM; 229,3 DMA; 128.2 PTA; 6.992 FF; 0.7656 IRL; 1,532 LIT; 42.14 LUF; 2.307 HFL; 175.9 ESC; 0.7023 UKL.

2 Rental prices reflect the cost in the capital city in each member state.

3 Taken to be the most expensive mainland call.

Exhibit 4: Leased line prices have generally declined in real terms

Connection and rental charges for voice grade analogue leased lines in 1991 relative to 1980.[1]

	National Circuit Connection Charge		50 km Circuit[2] Monthly Rental		250 km Circuit Monthly Rental	
	1-Nov-91 (ECU[3])	Percentage Change 1980 to 1991	1-Nov-91 (ECU)	Percentage Change 1980 to 1991	1-Nov-91 (ECU)	Percentage Change 1980 to 1991
B	1024	-	301	+22%	603	+22%
DK	676	-14%	130	-21%	243	-47%
D	80	-85%	995	-27%	1588	-30%
GR	44	-	476	-57%	893	-59%
E	314	-55%	689	-25%	1281	-12%
F	193	-56%	440	-6%	1299	-22%
IRL	260	-	273	-8%	728	-34%
I	131	-53%	687	-10%	1148	-21%
L	118	-36%	213	-11%	-	-
NL	431	+16%	323	+22%	435	+24%
P	204	-24%	447	-41%	992	-41%
UK (BT)	1784	+278%	225	-17%	512	-28%
EC Average (unweighted)	**438**	**-3%**	**433**	**-15%**	**884**	**-22%**

1 All 1980 national currency values converted into 1991 national currency, taking into account changes in consumer price indices. Values taken exclusive of tax in each case.

2 Trunk circuits are assumed to have local ends of 1 km.

3 Currency conversion at rates prevailing on 1/11/91

Exhibit 5: Considerable surcharges still exist for telephone calls across intra-EC borders

This exhibit shows the continuing "Frontier Effect". The cost of 3 minute international telephone calls has been divided by the cost of the longest 3 minute national call to give the range of surcharges which apply when calls are made across intra-EC borders.[1]

Country	Cost of Intra-EC call / Longest national call	
Year	**1980**	**1991**
B	2.3 - 5.5	1.8 - 3.6
DK	3.8 - 6.8	4.5 - 5.3
D	1.0 - 1.1	1.7 - 1.7
GR	1.8 - 3.2	2.1 - 2.1
E	1.5 - 2.8	2.5 - 2.5
F	1.1 - 1.7	1.7 - 1.7
IRL	2.0 - 2.0	1.4 - 1.9
I	1.7 - 1.9	1.5 - 1.9
L	13.0 - 34.0	9.0 - 13.0
NL	3.8 - 8.2	5.5 - 7.3
P	1.6 - 3.7	2.1 - 2.3
UK[2]	1.4 - 2.8	2.8 - 3.0
EC Average (unweighted)	**2.0 - 3.6**	**2.5 - 3.0**

1 For example: in 1980 the cheapest Belgian international EC call was 2.3 times more expensive than the longest national call, while the most expensive international EC call was 5.5 time more expensive. In 1991 these multiples had declined to 1.8 times and 3.6 times respectively. Three minute calls at peak rate are used in each case.

2 Average of BT and Mercury for 1991

3 Excludes Luxembourg

Exhibit 6: Differentials exist in the cost of the same intra-EC telephone call according to country of origin

This exhibit shows the "Two Way Effect" Prices of identical international calls between Member States can vary considerably depending on the origin of the call.[1]

Out-going from:	Incoming to: B	DK	D	GR	E	F	IRL	I	L	NL	P	UK BT	UK MCL
B	-	2.54	1.84	2.54	2.54	1.84	1.84	2.54	1.27	1.55	2.54	1.84	1.84
DK	1.36	-	1.36	1.61	1.61	1.61	1.61	1.61	1.36	1.36	1.61	1.61	1.61
D[2]	1.69	1.69	-	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
GR	2.38	2.38	2.38	-	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38
E	3.20	3.20	3.20	3.20	-	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
F	1.98	1.98	1.98	1.98	1.98	-	1.98	1.98	1.98	1.98	1.98	1.98	1.98
IRL[3]	2.60	2.60	2.60	2.60	2.60	2.60	-	2.60	2.60	2.60	2.60	1.99	1.99
I[3]	2.53	2.53	2.26	2.26	2.53	2.26	2.98	-	2.26	2.53	2.98	2.53	2.53
L[2]	1.07	1.54	1.54	1.54	1.54	1.54	1.54	1.54	-	1.07	1.54	1.54	1.54
NL[3]	1.43	1.43	1.43	1.89	1.89	1.43	1.89	1.89	1.43	-	1.89	1.43	1.43
P	2.69	2.69	2.69	2.69	2.53	2.69	2.69	2.69	2.69	2.69	-	2.69	2.69
UK[4] BT	1.69	1.69	1.69	1.69	1.69	1.69	1.62	1.69	1.69	1.69	1.69	-	-
UK[4] MCL	1.42	1.42	1.42	1.42	1.42	1.42	1.37	1.42	1.42	1.42	1.42	-	-

1 Peak rate, 3 minute telephone calls, including value added tax at the applicable rate for 01/11/91. All prices have been converted into ECU. For example the cost of such a call from Belgium to Denmark on 01/11/91 was 2.54 ECU, the cost from Denmark to Belgium was 1.36 ECU.

2 No tax is levied on telephone calls, so tax exclusive and tax inclusive prices are the same. For other countries business may in certain cases be able to reclaim the tax levied

3 Taxed at residential consumer rate

4 Tax increase to 17.5% rather than 15% from April 1991

Exhibit 7: Existing local cross-border telephone tariff arrangements in the Community

Reductions for local cross-border calls from EC states.

From Border Regions of	Reductions Apply To Calls to Border Regions of	Reduced by approximately
B	F, D L NL	70% 60% 66%
DK	D	80%
D	B, DK, F, L, NL up to 40km up to 60km	 70 - 80% 50 - 62%
GR	-	-
E	-	-
F	B, D, E, I, L	60%
IRL	For calls between IRL and Northern Ireland (UK)	30 - 59%
I	F	27 - 36%
L	B, F, D	50 - 57% 62 - 70%
NL	B, D	55 - 63%
P	-	-
UK (BT)	For calls between Northern Ireland (UK) and IRL	58 - 86%

Exhibit 8: The availability of off-peak tariff offerings is still uneven in the Community - particularly for international calls

Maximum reductions in EC national and international telephone tariffs applied in off-peak periods, 01/09/91.

	National		International	
	Times	Reduced by approx %	Times	Reduced by approx %
B	18:30-08:00 Mon-Fri all day Sat & Sun	50	20:00-08:00 Mon-Sat all day Sun	27
DK	19:30-08:00 Mon-Sat All day Sun	50	n/a	-
D	18:00-08:00 Mon-Fri All day Sat & Sun	50	18:00-08:00 Mon Fri All day Sat & Sun[1]	25
GR	15:00-07:00 & 22:00-09:00 Mon - Fri From 15:00 Sat - 09:00 Mon	40	n/a	-
E	Offers 2 off-peak rates Cheaper is 22:00-08:00 Mon-Fri 14:00-24:00 Sat & All day Sun	48	22:00-08:00 every day	30
F	Offers 3 off-peak rates Cheapest is 22:30-06:00 every day	66	21:30-08:00 Mon-Fri 14:00-08:00 Sat All day Sun[2]	33
IRL	1800-2400 Mon-Fri 08:00-24:00 Sat & Sun	33	18:00-08:00 Mon-Fri All day Sat & Sun[3]	25
I	Offers 3 off-peak rates Cheapest is 22:00-08:00 every day	69	22:00-08:00 Mon-Sat All day Sun	20
L	n/a	-	19:00-08:00 Mon-Fri All day Sat & Sun	15-20
NL	18:00-08:00 Mon-Fri All day Sat & Sun	50	02:00-06:00 every day	20
P	Trunk calls offer 2 off-peak rates, cheaper is 22:00-08:00 Mon-Fri, all day Sun 00:00-08:00 & 13:00-24:00 Sat,	32	n/a	-
UK	Offers 2 off-peak rates Cheaper is 18:00-08:00 Mon-Fri All day Sat & Sun	50	20:00-08:00 Mon-Fri All day Sat & Sun[4]	18

1 Except to Greece, Italy, Portugal and Spain, 20:00-08:00 Mon-Fri, all Sat and Sun

2 Except to Portugal, 23:00-09:30 Mon-Sat, all day Sunday

3 Except to UK, two cheap rates are offered: cheaper is 24:00-08:00 every day, reduced by 50%

4 Except to Ireland, two cheap rates are offered: cheaper is 18:00-08:00 Mon-Fri, all day Sat and Sun