

THE FEDERAL TRUST

Enlightening the Debate on Good Governance



**Telecoms:
Liberalisation
without
Harmonisation?**

Iain Osborne

European Essay No.6

A Definition of Federalism

Federalism is defined as 'a system of government in which central and regional authorities are linked in an interdependent political relationship, in which powers and functions are distributed to achieve a substantial degree of autonomy and integrity in the regional units. In theory, a federal system seeks to maintain a balance such that neither level of government becomes sufficiently dominant to dictate the decision of the other, unlike in a unitary system, in which the central authorities hold primacy to the extent even of redesigning or abolishing regional and local units of government at will.'

(New Fontana Dictionary of Modern Thought)

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Introduction

I am informed, therefore I am. Is “Stay in touch” the new mantra for the information society? It is hard to be out of touch nowadays, with our ceaseless exchange of information through radio, television, internet, telephones, faxes and e-mail, not to mention traditional means of communication such as newspapers and the perennial technique of simply writing a letter and sending it by snail mail.

Since business is built around what human beings actually do in their lives, it is hardly surprising that the information society has already generated frenetic activity as the technology of mass communication has been updated or overtaken by the digital revolution. We all want - so it appears - to stay in touch, and the penetration of mobile phones in all developed societies is clear enough to prove it.

Now we are on the point of bringing the technology of the internet and the technology of mobile telephony together. The potential for human communication is evident, and major business interests are positioning themselves to take maximum advantage of the shift. Some of the spoils will go to small, new companies that are more nimble and can innovate faster than the larger, older actors, but the size of investment and the depth of research of the established companies in this field weighs heavily in their favour.

Regulation - country by country or at European level - is ambiguous in its effects on different companies in this expanding industry. Liberalisation may help one;

harmonisation may help another. And the specific form that liberalisation or harmonisation may take can make or break a company. The devil often lies in the detail.

Iain Osborne's essay reviews the process at this critical stage in Europe's development into the digital age. Relations with the United States - where this process is even more advanced - and the global reach of both the new technology and of business interests are the backdrop for his treatment of the steps the Commission has taken and is preparing to take in this field. Some of the detail is technical - the Interconnection Directive, the Licencing Directive, the Revised Voice Telephony Directive, the Telecommunications Data Protection Directive, the Numbering Directive - but the issues are large and immediate and the solutions found for them will shape our daily lives. The telecoms world is changing around us, and this European Essay helps the reader find their bearings.

Martyn Bond
Director, The Federal Trust
March 2000

About the Author

Iain Osborne is currently Director of Regulatory Policy for a pan-European telecommunications network operator and service provider. This essay represents only his own views. He was formerly responsible for co-ordinating telecommunications regulatory policy for the UK Government, and before then was a policy advisor in the European Commission.

European Legislation on the telecommunications industry

by Iain Osborne

The importance of the Information Society is undisputed, but debate rages over everything else in the field. Policy-makers, academics, consumer groups and service providers offer diverse visions of the future, and stress different criteria for public policy. Some emphasise economic efficiency or dynamism, others the rights of consumers and citizens, or social justice, or cultural diversity. The debate bulldozes traditional divisions between Ministries or academic disciplines. It requires us to understand the impact of new technologies, which are changing more rapidly than any previous industrial breakthrough. The debate is confused, but vital.

Against this background, this short essay has modest aims. Its objective is to underline the importance of the EU dimension to telecommunications policy. In particular, it will show how insufficient attention to building the Single Market may undermine attempts to create free and open competition in each national market.

To this end, it will briefly outline the contribution of one industry (telecommunications) to the development of the Information Society. It will describe the objectives of EU policy and legislation in this field. It will assess the impact in particular of the package of measures in effect from January 1998.

The Role of Telecommunications in the Information Society

Why should we care about the telecommunications market? Partly for the reasons we care about all large industrial sectors: telecommunications creates substantial value and employment in the European economy. The sector is growing faster than EU GDP, and despite lay-offs from former monopolists, employment in European telecommunications is also increasing.

Telecommunications is also of crucial importance as an enabling technology, the nervous system of the developing Information Society. First, a note about what this over-used but accurate phrase denotes here. No-one knows the future. When this essay discusses the "Information Society", it will not talk of a future state, but of something already in existence. European society is already an "information society", in a number of different ways:

- European citizens already have access to more information about the world than ever before. A mass of data, information and (sometimes) knowledge is available on the World-Wide Web. Europeans are better able than ever before to communicate with friends, relatives and colleagues in Europe and other parts of the world;
- The information-rich quality of modern life increasingly determines citizen's attitudes. Leisure is more active, less passive. Consumers are more assertive because better informed. Wars in distant countries are discussed in Europe's homes because they are vividly present in our media;

- Information processing is already at the heart of the European economy. Few companies could compete against US or Far Eastern rivals without information technology. A growing proportion of GNP comes from services created solely or essentially by the manipulation of bits and bytes.

The creation of the Information Society is forming part of a social, cultural and economic revolution. This seems to be at least as large as the 19th century industrial revolution based on coal and steel, or the 20th century “economic miracle” based on new industries such as aerospace. The current revolution is driven by a wave of technological activity integrating traditional telephony with computing. Progress has been rapid from the late 1970s¹. Technology has revolutionised telecommunications at several different levels:

- The development of optical fibre has changed the cost-base of telecommunications. Fibre is cheaper than copper and needs no protection from electromagnetic interference. It can carry millions of times more signals than an equivalent copper cable, and so the fixed costs of laying the fibre are spread much thinner. Previously the cost of transmission capacity was a major element in the economics of a telecommunications network, but this is less and less true.
- Micro-processors have had an ever greater impact. The computers embedded in the modern telecommunications networks calculate the most efficient transmission channel. They drastically reduce maintenance costs by allowing remote diagnosis and repair of faults. They allow the

integration of new services into the traditional business of message transmission.

- High-speed information processing has allowed the development of modern-day mobile telephone networks. This minor miracle continually tracks the location of many thousands of handsets, integrates this information with data about a complex radio-communications network and thus allows a continuous voice channel to be kept open as the handset travels across country.

This is not, however, a story about high-tech gee-whizz. While in themselves computing and telecommunications are sizeable industries, they are important above all because they can facilitate efficiency gains in other industries. An example will illustrate the point:

Retailers now manage their key business processes by tying massive processing capacity into a dense network of communications. Information is collected at the point of sale and fed back into a computer system which tracks product availability. Sensors monitor on-shelf and in-stock inventories levels. All this information is integrated with data about availability of lorries and pallets, which is also updated in real time from a myriad of sensors. Point-of-sale systems also collect information about customer buying habits (courtesy of customers' willingness to register their identities by using loyalty cards). The technology enables perfectly pinpointed marketing, and leads to efficiency gain, industry consolidation within retailing, and opportunities for cross-selling between retailing and other industries.

Some observers argue that the next phase of change will be faster than the last twenty years. While an estimated 142 million people were using the Internet by the end of 1998, by 2003 over half a billion will be "online"². In Europe Internet penetration is forecast to grow by around 33% each year, from the current 11% penetration to a rate closer to the US' 1999 figure of 26%.

This would be of limited importance if it simply meant more hobbyists. However, the next phase will see the arrival of the Internet as a key business tool. Electronic commerce is projected to grow exponentially over the next few years, from a European turnover of around 5 billion Euros in 1998 to something over 400 billion by 2003. The bulk of this revenue will consist of business-to-business transactions, which is the segment where e-commerce has made the most impact so far. However, the Internet is expected to take a significant share of retail sales over the next few years, for example with 50% of airline tickets being sold on-line by 2003.³

Moreover, the Internet is going to begin to affect people who until now have seen it as a technological artefact - perhaps one to be avoided! Internet-enabled services will proliferate. Internet access will no longer be available solely from PCs, but from a much wider variety of consumer electronics and consumer durables. WebTV is already a mass market product in the US, and digital television will promote its development in the UK. The latest version of the Internet Protocol multiplies many times over the number of individual

addresses available. Some in the industry believe this will allow the Internet to penetrate deep into the home. Many foresee products such as:

- an Internet fridge which automatically re-orders foods from the supermarket as they are used up.
- Internet lights, allowing the householder to foil burglars by turning lights on and off remotely.
- an Internet hi-fi, able to download this week's chart.

Some of these products will work through a home's fixed network connection, but others will take advantage of the advent of mobile Internet access, working prototypes of which are now in existence.

Electrolux recently announced a joint venture with the telecommunications equipment company Ericsson, to develop a network to link home appliances with the Internet. The venture could allow, for example, food to be ordered from a screen on the refrigerator. (Electrolux has also unveiled a prototype Internet-linked fridge, the Screenfridge.) It could also allow the monitoring of a freezer - checking temperature and parts - electronically. The companies expect the total market for electronic household services to exceed \$15 billion by 2005.

In summary, our society is *being* - not *will be* - transformed by the growth in our ability to process information and transmit it over long distances. This ability has resulted from the intermarriage of two initially separate technologies: computing and telephony.

Political Responses to Technological Development

The last section showed that the development of computing and telecommunications have been intermingled for several decades. Nevertheless, the regulation of these industries has taken very different courses.

Computing has been a lightly regulated industry. Its products have been sold subject only to normal trading standards law. Regulators have assumed consumers to be knowledgeable about the product they are buying. Standards have emerged out of the pressures of the competitive market. (At some periods a dominant competitor has succeeded in imposing its own standard. At others use of an open standard has been a key competitive weapon, as was the case in Microsoft's trajectory to market dominance.)

Telecommunications, on the other hand, carry a burden of history. The reasons for this are both industrial and political. On the industrial level, the economics of the industry have created an inherent tendency to conservatism. On the one hand, fixed and common costs are of unusual importance. In order to build a telecommunications network an operator needs to secure rights-of-way and build a large number of physical switching sites. Once this infrastructure is in place it is relatively easy to add new customers to the network: marginal costs are low. The importance of fixed and common costs has created a strong advantage for the first mover, and thus a tendency towards monopolisation.⁴

At the same time, each additional customer connected to the network enhances the value of the service provided to every other. This has created a premium on ensuring any subscriber on any network can connect to any other, and so a strong tendency to standardisation. Until the 1980s it was rare for alternative standards to compete. Rather, governments or monopoly postal administrations have tended to choose standards. At the same time, however, each government or monopoly had its own standard. These worked together at the level of lowest common denominator but made it difficult to create value-adding innovative services operating across more than one national network. This has hampered the development of cross-border services, as well as compartmentalising the telecommunications equipment market.

Economic factors encouraged the growth of monopolies, even before political intervention. Once monopolies come to exist, however, few governments are willing to allow them to run unregulated. This is particularly true where the monopoly is providing a public service which has over the twentieth century become increasingly vital to social and economic life. Such was the fear of private exploitation of a monopoly that in many cases the telephony network was taken into public ownership. Moreover, public ownership allowed governments to impose public service obligations without needing to analyse transparently the costs of such obligations, or whether there might be cheaper ways to achieve the same effect. In this way, most governments have required that services

should cost the same anywhere in the country. Similar is the widespread practice of subsidising line rentals or local calls (used by “the masses”) from national or international call costs (used predominantly by “the classes”).

However, by the late 1970s, technological innovation was creating strong pressure for change. Users, especially large corporations, realised they could run their own telecommunications networks more cheaply than they could buy telephony services from Government departments. It was feared that European postal administrations were not investing sufficiently quickly to keep up with technological change.

In the US the Federal Communications Commission launched a programme to deregulate the US telecommunications industry. After years of legal conflict this led to the break-up in 1984 of the private monopoly AT&T, so as to permit competitive entry into the long-distance telecommunications market. (The local monopoly was preserved, however, for fear that competition would undermine cross-subsidies thought socially valuable. No state as democratic as the US finds it easy to abolish subsidies to ordinary people.)

The same pressures led the Thatcher government in the UK to prepare to take British Telecommunications out of public ownership. This move was met by a degree of scepticism at the time. On the one hand, many believed that universal service was put at risk by the move. The new entrant, Mercury Communications, would “cherry-pick” the best customers leaving BT

unable to finance service to residential users. On the other hand, BT's workers felt that privatisation threatened their interests.

The European institutions were not idle over this period. In April 1978, the European Economic Community launched Euronet, a project conducted by the nine postal administrations of the Community. One industry journal claimed, optimistically, that "the full co-operation of the international PTTs ... represents what could be the first move towards forming a single body to administer telecoms activities within the EEC borders."⁵ The objective of this venture was to extend the state-owned public service monopoly model to international activity, so as to improve service to pan-European businesses. However, national administrations proved unable to compromise on any major national interests, and the project has made little mark on history.

The EEC's first ventures into liberalisation of the telecommunications market related to the terminal equipment market. This market is the Siamese twin of the services market, since equipment needs to inter-work smoothly with the network and avoid posing any threat to it. For this reason telephone administrations have historically kept tight control over the telecoms equipment market. As noted above, each country has historically tended to have unique standards, and this has prevented the emergence of telecoms equipment providers on a European scale, able to compete with North American companies like AT&T or Northern Telecom (Nortel). Nevertheless, telecommunications equipment companies have always

been private enterprises subject to some degree to market pressures.

A 1988 directive⁶ required Member States to lift restrictions on the sale and use of terminal equipment, subject to the equipment having received type-approval from a national testing laboratory. This was followed in 1991 by a directive, part of the Single Market programme, which aimed to create mutual recognition of type-approval⁷.

This “Telecoms Terminal Equipment” (TTE) directive was not, however, a great success. It relied on the adoption of Europe-wide standards by the European Telecommunications Standardisation Institute (ETSI). ETSI works essentially through consensus and Member States were therefore able to block the adoption of standards which would have made the TTE directive effective. As a result, by 1997 only a handful of harmonised standards had been adopted, so that equipment suppliers still had to tour around fifteen separate standardisation bodies. This process cost millions of dollars and was a serious barrier preventing equipment suppliers capturing economies of scale from selling to the European market. In 1998 the TTE directive was replaced by a new directive, which allows manufacturers to self-declare compliance⁸. Many observers are optimistic that this will finally succeed in creating a single market for telecommunications equipment.

On the services side, the power of the monopoly PTTs proved a significant obstacle to change. However, a 1987 Green Paper proposed a staged liberalisation. The

first priority was to be those services which businesses demanded so as to maintain their competitiveness.⁹ That is to say, data services were to be liberalised, along with leased lines (used to string corporate networks together) and services to “closed user-groups” (an ill-defined term, which in most countries was taken to mean corporate telephone networks). In effect, the only non-liberalised “reserved service” was voice service to the public.

Following the Green Paper a series of Directives were negotiated which aimed to ensure fair competition in the newly liberalised markets. The attack on monopoly took two forms. The first involved simply implementing the Treaty of Rome. Although Article 90 of this Treaty¹⁰ forbade Member States from granting legal monopolies (and duopolies), this had been a dead letter in telecoms (as it still is in a number of industries). The Commission’s role as guardian of the Treaties meant it could implement this directly and immediately, which it proceeded to do after consulting with Member States. Implementation took the form of a series of Commission directives which progressively forbade monopoly or duopoly in all telecommunications markets except for public voice telephony¹¹.

At the same time, new entrants were permitted to use incumbents’ networks. This approach, more than any other, has been responsible for the progressive opening up of the market, and was enshrined in the Open Network Provision directives (ONP)¹². Their effect was to create standardised products which all incumbents had to offer, at cost-oriented rates, and to prevent the monopolists from discriminating in their supply of these

regulated network elements. This set an important precedent, that the EU was not merely going to give new companies legal rights to participate in the market. It also recognised the importance of actively addressing the economic barriers which might prevent them winning market share. Although caricatured by some incumbents as a “tilted playing field” because it imposed obligations on ex-monopolists and not on new entrants, this has proved essential to making substantial progress towards a competitive market.

In 1994 the Commission returned to the issue, with a proposal to attack the remaining legal monopolies on public voice telephony service. The 1996 Full Competition Directive¹³ required the end of legal monopolies and duopolies by 1 January 1998. Spain, Portugal, Ireland and Greece obtained a deferment to 1 January 2000 because the relative under-development of their networks would make it harder for those operators to prepare for competition, while Luxembourg was also granted a deferment to that date because of the smallness of its national operator. (In the event Spain, Ireland and Luxembourg chose to liberalise in 1998 or 1999, and so far their former monopolists seem to be thriving in the more invigorating climate.)

The Full Competition Directive went beyond merely requiring an end to monopoly. It also stated in outline that Member States were required to put in place conditions necessary for competition to thrive. In particular, it required Member States to introduce non-discriminatory, transparent and proportionate licensing systems, and for them to require ex-monopolists to provide interconnection services at

“cost-oriented” rates. The Commission therefore followed up the Full Competition Directive (which was based on the competition law provisions of Article 90) with proposals for harmonisation directives based on Article 100a. These proposals resulted in:

- The Interconnection Directive¹⁴, which prescribes varying levels of interconnection obligation, which kinds of organisations should have to shoulder each level and, in outline, the criteria to be used in assessing the market position of a given organisation so as to determine the burden it should carry. In simple terms, the directive requires ex-monopolists and others who develop significant market power to provide cost-oriented interconnection on any reasonable request;
- The Licensing Directive¹⁵, which broadly requires Member States to licence all-comers to run networks and provide services, forbids discrimination in licence conditions, and sets out harmonised criteria to guide Member States in applying licence conditions;
- The Revised Voice Telephony Directive¹⁶, which creates a framework for service universally designed to ensure regulation for social provision does not distort competition;
- The Telecommunications Data Protection Directive¹⁷, which harmonises rules on data protection, and so at least in principle should facilitate cross-border service provision;
- The Numbering Directive¹⁸, which requires Member States to force ex-monopolists to provide a range of basic support services necessary for full competition. Key examples are: the ability for a customer to keep the same number when changing operator (in the jargon, “number portability”); and the right to

access other operators' networks from an ex-monopoly exchange line ("carrier pre-selection")

The European Commission has monitored closely the implementation of this package of Community legislation. Its fifth implementation report was issued recently, and makes fairly up-beat reading. Although this essay will end with some very significant caveats, it would be churlish not to agree that on several levels, the Commission's positive note is justified. Within just a few years Europe has discarded monopoly provision, and in every Member State (except Greece and Portugal) competition is flourishing at most levels of the market. Billions of Euros are being invested in alternative networks, and most customers now have a choice of supplier for at least some of the telecommunications services they purchase.

The Importance of Harmonisation

The European Commission has been reviewing the current legislative package over the course of 1999. One of the themes which has emerged from its consultation with the industry is the importance not just of a liberalised market, but also of a harmonised one. No-one disputes that there is some level of competition in each liberalised Member State, and that the markets in each are changing and maturing fast. However, the legislative frameworks created by national implementation of European directives are significantly different. It is becoming clear that - without further legislation, which is most likely to be prompted by EU intervention - the national markets may settle into very different patterns, with different levels of competitive intensity.

Some may argue that this is a natural state of affairs. After all, even in thoroughly harmonised markets consumers continue to have a national preference so that pan-European providers need to tailor their products closely. (European consumers of confectionery, for example, have widely varying preferences, and so although a company like Nestle can centralise production to some extent, its marketing remains locally driven.) Each market entrant needs to justify these localised expenses on the basis of the market share and revenues it expects to capture, and so one would expect fewer entrants in smaller national markets.

However, that is not a good description of the telecommunications market. Product markets are not particularly nationally segmented, and those pan-European operators which have emerged (for example, GTS, COLT and MCI Worldcom) are offering similar products in each market. In fact, differences in competitive intensity in European markets are currently mostly the result of differences in national regulatory frameworks. Same-sized markets are not behaving in the same way. For example, Germany has seen vigorous competition to date, while France Telecom has lost relatively little market share.

Every element of the harmonisation package adopted in the run-up to 1998 has been implemented unevenly in different Member States. To some extent, this is normal and healthy. Implementation needs to reflect national legal and political traditions. Examples of "healthy" variations might include:

- The nature of the national regulatory authority. Some countries give licensing and enforcement to an independent regulator, others keep licensing with the Ministry. Some set up a single person as regulator, others give the role to a committee;
- Consumer protection is carried out in some countries mainly by the sector-specific regulator, while in others an ombudsman with general consumer protection responsibilities plays an important part;
- Facilities such as number portability are in some countries enshrined in law, while in others they flow from licence conditions.

There is clearly a need for flexibility in implementation. However - and this is a major caveat - flexibility should not be allowed to impede the creation of a single market. This is happening in today's European telecommunications market. The single example causing most damage is the failure to harmonise the terms of interconnection available in different countries.

Interconnection, as noted above, is the lifeblood of telecommunications competition, since it is impossible to sell a service unless it allows users to call anyone else with a telephone. Networks must exchange the high level of detail needed to ensure correct functioning of complex value-added facilities (like virtual private networks or calling line identification). Interconnection therefore requires a level of openness between competitors which is almost unheard of in other industries. Basing these relationships on law rather than trust makes regulation an extraordinarily complex task.

Strangely, though, the difficulties currently arising do not flow from this technical complexity. Operators do, by and large, succeed in working together to ensure vastly sophisticated services flow unimpeded across interconnection points. Conflict arises more as to how interconnection services should be priced, and who has rights to interconnection.

Long-established regulators such as the US' Federal Communications Commission (FCC) and the UK's Oftel have converged on pricing interconnection on the basis of forward-looking rather than backward-looking costs. That is to say, they do not permit the incumbent to pay for existing assets through interconnection charges, but only to charge for new, incremental investment it will have to make. To these incremental costs they generally permit a mark-up to cover common costs and the cost of capital. The European Commission has supported this approach (in the jargon, the long-run incremental cost method, or LRIC) in a recommendation on interconnection pricing¹⁹.

However, LRIC is not a requirement of EU law. Although most European regulators profess to prefer it, the Dutch regulator OPTA has chosen not to use it but to stay with the method rejected by Oftel and the FCC in the mid-1990s. This is not a theoretical issue. Where LRIC would have produced lower charges (typically, for long-distance lines and leased lines) Dutch consumers are over-paying for interconnection and leased line charges. Where LRIC would have produced higher charges (typically, for local exchange lines), investment signals to other players are distorted, which creates a disincentive to invest in local access.

At a more detailed level, there is virtually no harmonisation of the approach to calculating LRIC. The practical task of setting interconnection rates on the basis of LRIC requires a number of steps:

- The incumbent must produce regulatory accounts. There is no standard format for these. Regulators in most Member States are wrestling with information provided by incumbents. The absence of any shared best-practice makes this already-daunting task many times more fearsome for under-staffed national regulators.
- These accounts produce a “top down” version of what interconnect rates should be. However, they include hidden cross-subsidies. The next step is therefore to readjust the accounts on the basis of what actual activity creates what costs, which is to say what costs should be allocated to what activities. Activity Based Costing is, like LRIC, a fairly standard methodology. Unfortunately, because European regulators are each struggling independently with the task, it is considered too difficult and has not so far been widely used in setting rates.
- A full account of the true costs of the incumbent is a good foundation, but nevertheless includes all the inefficiencies of the incumbent. Part of the purpose of competition is to iron out those inefficiencies, so it is essential that new entrants should not have to pay for them. The next step is therefore to compare the top-down accounts with a bottom-up model of the incumbent’s operations. The results of a bottom-up study depend crucially on the assumptions made in constructing the model. Again, no attempt has been made to harmonise the assumptions used in bottom-up interconnection modelling. Full

harmonisation would probably not be possible because of objective differences between countries, but a considerable amount of harmonisation would be possible.

In each of these areas Oftel and regulators outside the EU have solid experience over a number of years. Europe's central regulatory mechanisms have failed to use that experience, so that each national regulator struggles with these extremely difficult issues alone. So far, none except Oftel has truly got to grips with the issues. Most European interconnect rates are set on the basis of a fairly crude benchmarking process which compares outcomes (rates as set) not inputs. It also only compares rates within Europe. Since most of the European markets have emerged into competition simultaneously, they seem unlikely to provide the best proxies for true engineering costs.

Until regulators have worked through the task of cost-analysis, such benchmarking is the best proxy available. Nevertheless, the situation is deeply worrying to new entrants with pan-European activities. Given the current situation it seems highly likely that each national regulator will use different assumptions so that interconnect rates will be closer or further from true costs, which will generate permanently different levels of competitive intensity. Moreover, if regulators continue to struggle to "reinvent the wheel" it seems unlikely that their cost-models will keep up-to-date with a rapidly changing industry.

Just as serious is the diversity of interpretation about who has the right to interconnection, and on what

terms. In some Member States, such as the UK, there is a single set of cost-oriented interconnect rates to which any qualifying operator has a right. Qualification is determined by the regulator, not BT, and is on the basis of whether the operator meets certain transparent criteria.

In Germany, on the other hand, Deutsche Telekom determines what rates an operator will pay (subject to appeal to the regulator, on limited grounds) and has instituted a stepped scheme. Only operators with full national networks pay the lowest rates. While the market consequences of this arrangement will be worked out over the course of the next few years, it is much to be feared that it will stifle the vigorous competition seen to date in the German market. The risk is the creation of a cartel of a few large operators who divide the pie between them, allowing only limited shares in certain markets to smaller operators.

France provides another contrast. The French regulator does not require France Telecom to provide certain interconnection services, notably long-distance origination. As a result operators wishing to offer services nationally must first build a national network. This contrasts to a more normal pattern of development, where operators begin by building market share and revenues, and learning about consumer behaviour, and use this experience to justify and guide further investment. As a result, the major new entrants have spent the first twelve to eighteen months since liberalisation building, rather than selling, and France Telecom has lost less market share than the incumbent in any other major market.

Does this matter? New entrants argue strongly that it does. The lack of harmonisation means that as markets settle and mature, they will continue to demonstrate different levels of competitive intensity. Lower competitive intensity will, in the long run, mean less innovation and higher prices.

Not only will this damage consumers and industrial competitiveness in the countries affected, but it will have spill-over effects. The press contains stories almost every week of the consolidation of the industry across national borders. Recent examples in March 2000 include:

- Vodafone's acquisition of Mannesmann. (Vodafone has substantial businesses in most major European markets);
- The acquisition by BT of Esat, the second Irish operator;
- The acquisition by German operators of a string of leading UK operators (One-2-One, Orange, Racal Telecom);
- BT joint-ventures in most European countries, together with its US ally AT&T.

Other dramatic near-deals like Deutsche Telekom's near-acquisition of Telecom Italia, or the near-merger between Telia of Sweden and Telenor of Norway, also show the likely direction of industry development.

Such consolidation is probably inevitable, and if addressed correctly by anti-trust and telecommunications regulators will prove healthy for the European industry. However, if acquisitions result in part from certain parties having a "back garden" in

which they are under less pressure, then the outcome will be damaging. Such a scenario would create a disincentive for national regulators to drive out inefficiency, since putting national operators under pressure would make them vulnerable to overseas take-over. It would also mean management practices from less-efficient markets would be likely to spread to the more-efficient, since the dominant parties in mergers would be from the less effectively regulated regimes.

Conclusion

European telecommunications liberalisation took a long time to get started, but in the second half of the 1990s it has been a decided success. Harmonisation, on the other hand, has been less successful. The European Commission recognises this problem²⁰, and proposes to use the review of the legislative framework currently under way to address it. However, there is considerable discussion in the industry as to the appropriate remedy.

Few support the creation of a new institution to act as pan-European regulator. The complexities of the subject, and the legitimate role for flexibility in national implementation, would make its task impossible.

Moreover, the European Commission seems a perfectly adequate institution, which needs to use its powers in new ways. It is uniquely placed to drive harmonisation through the co-ordination of the actions of national regulators.

On one level, the Commission has been effective at using its legal powers to pursue defective implementation in the courts. New entrants look for continued effort in this area. (It must be admitted, however, that in some cases, the industry has failed to provide the Commission with concrete complaints - as opposed to generalised moans! - on which the Commission could act.)

Harmonisation might, in some cases, be driven by using regulations (which are immediately applicable everywhere) rather than directives (which require national implementation). Regulations are by their nature inflexible, but could be useful in harmonising some technical details.

Above all, though, there is wide support for a more active role for the European Commission in producing (or stimulating the production of) guidelines or recommendations. Where the Commission has produced detailed recommendations in the past (on interconnection pricing, for example, or on the correct approach to determining significant market power) they have been widely influential. The industry is likely to press for much more activity in this area, perhaps backed up by a legal framework which requires regulators to justify publicly and in detail why they are not adopting a particular recommendation.

¹ The US Federal Communications Commission estimates that the time taken for major innovations to be widely used in the network has decreased markedly, from 20-30 years at the turn of the century to around 5 years today.

² IDC estimate quoted in Salomon Smith Barney report, "Net Winners and Losers", October 1999

³ Estimates in Salomon Smith Barney report, "Net Winners and Losers", October 1999

⁴ This is now much less true. Diminishing network costs, and growth in the value of the services the network can provide to customers, mean it is now possible to fund building alternative networks

⁵ Communications International, October 1999: "25 Years of CI"

⁶ 88/301/EEC, Directive on Competition in the Markets for Telecommunications Terminal Equipment

⁷ 91/263/EEC, Directive on the Approximation of the Laws of the Member States Concerning Telecommunications Terminal Equipment Including Mutual Recognition of their Conformity

⁸ 98/13/EC, Directive Relating to Telecommunications Terminal Equipment and Satellite Earth Station Equipment, on the Mutual Recognition of their Conformity

⁹ One of the consistent themes in this story is the way the needs of large business have driven liberalisation, and until recently business has benefited most from it. This is a sad reflection on the workings of representative democracy in Europe. Consumers are ill-organised compared to businesses, and their representative bodies have a poor track-record of identifying and seizing opportunities created by technological change.

¹⁰ Still in force, but now referred to as Article 86 since the Amsterdam Treaty renumbered the Articles. The author finds it clearer to stick with the old article numbers throughout this essay. Amsterdam Treaty Article numbers can be found by subtracting 4.

¹¹ See the Services Directive 90/387/EEC, the Satellite Services Directive 94/46/EC, the Cable TV Directive 95/51/EC and the Mobiles Directive 96/2/EC.

¹² These included at this stage the ONP Framework Directive 90/387/EEC and the Leased Lines Directive 92/44/EC.

¹³ 96/19/EC

¹⁴ 97/33/EC

¹⁵ 97/13/EC

¹⁶ 98/10/EC

¹⁷ 97/66/EC

¹⁸ 98/61/EC

¹⁹ 98/C84/03

²⁰ See the recent 5th Report on the Implementation of the Telecommunications Regulatory Package

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