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INSTITUTIONAL STRUCTURES AND RESPONSIBILITIES

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TELECOMMUNICATIONS REGULATIONS: INSTITUTIONAL STRUCTURES AND RESPONSIBILITIES

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FOREWORD

This report was discussed by the Working Party on Telecommunications and Information Services Policy (TISP) in November 1999 and subsequently declassified by the Committee for Information, Computer and Communications Policy (ICCP).

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MAIN POINTS

Regulatory reform in the telecommunications service sector has focused on opening monopoly markets to full competition over the last decade. The liberalisation of telecommunication markets has required a new set of regulatory principles that can ensure fair competition in the marketplace. As a result, OECD Member countries have changed their regulatory frameworks for the telecommunications sector as liberalisation in the telecommunications market was implemented. Consequently, together with the changes in regulatory rules, there have been changes in the role of regulatory institutions in the telecommunications sector.

One of the most visible institutional changes is the establishment of the independent regulator that is separate from interested parties in order to ensure fair competition in the marketplace. In this regard, in line with the liberalisation of the telecommunications market, many OECD countries have established sector specific independent regulators that are separate from not only telecommunications operators but also from line-ministries, which have the responsibility for policy making in the sector. However, the responsibility and the degree of independence of the sector specific independent regulators vary across countries. The relationship between the Ministry, responsible for telecommunications policy making, and the sector specific independent regulator can be influenced by a country's political and legal traditions and the degree of market development. However, experience has shown that more effective regulation can result where there is a certain degree of structural independence allowing the regulator to implement its regulatory mandate without any political intervention.

Another important institutional change is the growing involvement of competition authorities in telecommunications regulation. In spite of the presence of the sector specific regulator (either as a newly established independent regulator or a traditional government body), as competition has developed the role of competition authorities has increased in the telecommunications sector. It has increased through forbearance by the sector specific regulator and/or the abolition of the exemption on applying general competition rules to the telecommunications sector. The growing involvement of the competition authority raises the issue of inconsistent jurisdiction in the sector which may create problems for market participants in making business decisions. In order to reduce business risks due to regulatory uncertainty, Member countries are using various methods to prevent conflict in jurisdiction between regulatory bodies.

Although the introduction of competition has resulted in changes in the role of institutions, convergence in the communications sector, which is driven by the rapid development and implementation of digital technology, is also leading governments to consider future institutional changes. Convergence in communications brings into question the existing service-based vertical regulatory system, which almost all Member countries have adopted. In particular, there is increasing demand from the industry to reorganise regulatory institutions in the light of convergence. However, not many institutional changes have been made to take into account convergence between telecommunications and broadcasting.

While most OECD Member countries have made institutional changes with the liberalisation of telecommunication markets, the responsibilities and the structure of regulatory bodies have differed significantly among them. This paper aims to stimulate reflection on best-practice regulation by

undertaking a comparative examination on the role of regulatory institutions and the relationship between them. In particular, it will focus on the following areas:

- Administrative structures of the sector specific independent regulator.
- Relationships between the telecommunications regulator and the competition authority.
- Division of regulatory responsibilities in the telecommunications sector.
- Convergence and regulatory institutions in the communications sector.

TELECOMMUNICATIONS REGULATION: INSTITUTIONAL STRUCTURES AND RESPONSIBILITIES

Introduction

The rapid transformation of the communications sector, driven by technological development and market liberalisation, has resulted in a number of important regulatory developments. These include changes in the role of regulatory institutions, as well as the development and implementation of a number of new regulatory rules such as licensing, interconnection, numbering, pricing, universal service, and rights-of-way.

The process of liberalisation has also been linked with efforts to introduce harmonised regulatory principles in countries in order to ensure consistent market entry opportunities for telecommunications operators. For instance, the European Commission (EC) issued Harmonisation Directives, such as the ONP Framework Directive, Interconnection Directive and Licensing Directive. The Reference Paper on the WTO agreement on basic telecommunications services set down principles on interconnection, universal service, licensing, and allocation and use of scarce resources.

Despite these efforts to set down the main principles for telecommunication regulation, there has been a wide variation in how countries have structured regulatory institutions and the role they have given them in facilitating the transition of the market from monopoly to competition while protecting users' interests. At the international level, the only reference to the structure of regulatory institutions is the requirement that it should be independent of telecommunication operations. As a result, regulatory institutions have developed somewhat differently in each country with different responsibilities.

Nevertheless there have been three major trends. First, many countries have established sector specific independent regulators that are separate from line-ministries, which have the responsibility for policy making in the sector. Second, competition authorities have been given an enhanced role in the communication sector as competition has developed. Finally, although not as apparent as the other two trends, some countries are beginning to take into consideration the integration of regulatory institutions on telecommunications and broadcasting in the light of convergence between the two communication services.

This paper will first discuss the background of institutional changes, which have been developed since the liberalisation of the telecommunications market, and then examine the Member countries' institutional characteristics in the telecommunication regulation. In addition, it will examine implications of convergence for regulatory institutions in the communications sector.

It needs to be clearly stated that the objective of this study is to provide insights into the roles of regulatory institutions and relationships between them in the evolving telecommunications industry through a cross-country comparison. Thus, this paper does not attempt to analyse the performance of different regulatory systems. Neither does it suggest a single regulatory model, which could be applied to all Member countries. The performance of a regulatory system largely depends on the regulator's determination to promote competition regardless of the form of the institutional structure. Furthermore, each country's

regulatory structure should be understood in the context of its economic, social and political background. For the purpose of analysis, this paper defines regulatory institutions in the telecommunications sector as follows:

- **Ministry** - a government agency that is responsible for policy making in the telecommunications sector.

- **Independent regulator** - a sector specific independent regulator that is separate from the Ministry as well as telecommunications operators.

- **Telecommunications regulator** - a regulatory body that is responsible for the supervision of telecommunication regulations. This can be either the independent regulator or the Ministry, where there is no independent regulator in the telecommunications sector, or regulatory functions may be shared between both bodies.

- **Competition authority** - a regulatory body that is responsible for the supervision of general competition rules.

Independent regulator in the telecommunications sector

Up until the mid-1980s, with the notable exception of the United States, Canada and the United Kingdom, in the great majority of OECD Member countries a Ministry was responsible for telecommunications regulation. In some countries the Ministry was also the operator providing telecommunication services and there was no regulation of the sector *per se*. For these countries, the first steps in regulatory reform began with the separation of telecommunication operational functions from policy functions with the creation of a telecommunication operating entity.

In the late 1980s, as telecommunications market liberalisation developed, many governments started to introduce new regulatory systems that were more suitable for a competitive telecommunications market. In particular, the first key requirement was to develop a regulatory institution separate from all interested commercial parties in order to ensure fair competition among all market participants.

There are two ways to achieve the separation of a regulatory body from interested parties. One is full privatisation of the incumbent. However, in most cases in the OECD, the government has remained as a major shareholder[1]. By privatisation, the Ministry can be neutral when regulating the industry because it does not have a relationship with any specific market participant. The second way is to establish a telecommunications regulator that not only is separate from the industry but also maintains a distance from the Ministry or other government bodies that remain as a major shareholder of the incumbent. The latter method is overwhelmingly more popular among OECD countries. An independent institutional body has an advantage in avoiding conflict of interest that can occur if the regulator is also responsible for industry promotion. If the Ministry has responsibility for the development of an information society or promoting a manufacturing industry, it might protect the incumbent from competition in order to use the revenues of the incumbent to achieve other policy goals. The trend in establishing an independent regulator has been accelerated by the WTO agreement on basic telecommunications services that was signed on 15 February 1997 and came into effect on 5 February 1998, and the EU ONP Framework Directive.

The Reference Paper to the WTO agreement on basic telecommunications services contains many important pro-competitive regulatory principles, which apply to signatories of the agreement. In the Reference Paper, one article refers to the nature of the regulatory body. Under the title of “independent regulators”, the Reference Paper states:

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

This principle is linked to that of non-discrimination, that is, the regulatory body should not have any relationship with any telecommunication operators and it should be fair to all market players. However, in spite of the reference to "independent regulators", the principle does not impose on the signatories any specific administrative structure for regulation. Therefore, as long as a Ministry has no direct relationship with an operator, even the Ministry can be considered as an "independent regulator" under the WTO agreement on basic telecommunications services. For example, while Japan and Korea adopted the Reference Paper as a part of their WTO commitments, they still have Ministries as regulator[2].

In the EU, the ONP Framework Directive required EU member countries to notify their designated National Regulatory Authority (NRA) to the European Commission by 13 December 1996. The Directive defines a NRA as:

> "The body or bodies in each Member State, legally distinct and functionally independent of the telecommunications organisations, entrusted by that Member State, *inter alia*, with the regulatory functions addressed in the Directive".

The Directive requires EU member countries to establish an independent regulator that is functionally and legally separated from all telecommunications organisations. The term ''telecommunications organisations" refers to operational bodies providing service. However, all EU member countries have established independent regulators that are not part of line-ministries.

As a result of market liberalisation and the international and regional initiatives of WTO and EC, since the mid-1990s, many independent regulators have been created in the OECD region.

The role of a general competition authority in the telecommunications sector

Except in those countries -- the United States, Canada and the United Kingdom -- that have a long tradition of sector specific regulatory institutions, there are two main reasons that the majority of OECD countries have established a sector specific independent regulator instead of giving regulatory power to the competition authority, in the wake of telecommunications market liberalisation.

First, in principle, the main responsibility of the competition authority is to react to anti-competitive market behaviour, such as mergers, cartels and predatory pricing. Thus the competition authority takes regulatory action *ex post*, after determining that there has been anti-competitive behaviour in the marketplace. Unlike many other markets, the telecommunications market has started from a monopoly structure and is undergoing a transition to a competitive market. In such circumstances most countries believe that competition cannot develop by simply abolishing sector specific regulation and leaving the market to develop competition without assistance from regulatory safeguards. As a result, it is deemed essential to use a range of specific regulatory tools to develop a competitive environment and to prevent the dominant carrier from taking advantage of its dominant position, especially with respect to essential facilities. Asymmetric regulation, that is imposing a burden and certain obligations on the dominant carrier, has been viewed as one tool, which can help new entrants to become competitive. In this context, the establishment of a fair competition environment in telecommunications is largely dependent on the regulatory context such as the strength of the regulatory institution and the regulator's pro-competitive attitude in implementing regulatory rules. In this regard, many countries have favoured a sector specific regulator, which can take proactive action to develop competition *ex ante*, rather than to take ex *post* action to rectify problems once they become evident, which is often the role of the competition authority.

Telecommunications regulation has, in addition to economic regulation, social features such as universal service that are difficult to incorporate in general competition rules. Technical regulations also do not fit well with the regulatory framework of the competition authority. Furthermore, regulation in telecommunications requires the regulator to have professional knowledge of the industry, which is technology oriented.

While the majority of OECD countries have established an independent regulator, the role of the competition authority has nevertheless grown as competition has developed in the telecommunications market (New Zealand where there is no sector specific regulation or regulator is a special case). The role of the competition authority has increased in two different ways.

The first is through the abolition of exemptions applying general competition rules to the telecommunications sector. Previously, in many countries, general competition rules were not applicable in the areas where sector specific regulation existed. However, many countries now apply general competition rules to the telecommunication sector together with sector specific regulation. The lifting of the exemption from general competition rules results in shared jurisdiction between a sector specific regulator and the competition authority in the telecommunications sector. For instance, in the United States, the Telecommunications Act of 1996 expanded the Department of Justice's role in reviewing mergers by removing the ability the FCC had to exempt mergers of local phone companies from antitrust review.

The role of competition authorities has also increased through forbearance by the sector specific regulator. In many countries, a sector specific regulator has authority to designate market participants as having "significant market power" and the authority to impose asymmetric regulation on these companies. In addition, most sector specific regulators have authority to designate services that would be subject to price regulation such as price-caps, rate-of-return regulation or uniform tariffs. In a number of countries, such as in the United States, where AT&T is no longer considered a dominant market player, sector specific regulators can decide that companies or services will no longer be subject to sector specific regulation. In Canada, if the CRTC deems that the market for specific services is sufficiently competitive, it may forbear from regulating such services.

In line with the concept of forbearance, a number of countries are encouraging self-regulation of the industry. In Australia, self-regulation is encouraged through the development of voluntary industry codes of practice and technical standards, and the Australian Communications Industry Forum (ACIF) was established by the communications industry to support this process. In the United Kingdom, OFTEL can decide to allow the industry to implement self-regulation in any area it chooses. Premium rate services, Internet content, and the details of pricing policy (subject to an overall price cap in the dominant incumbent, BT) are examples. In Canada, the CRTC can decide to allow the industry to implement self-regulation. In the United States, self-regulation is being used in a number of areas including equipment certification, service quality, network reliability and Y2K.

Convergence and regulatory structure

The development of digital technology is blurring boundaries between different communication services such as voice telephony, broadcasting and on-line computer services. Traditionally these services were provided through different networks and different platforms. However, digital technology can provide a substantially higher bandwidth capacity to deliver all communication services over the same networks and to use integrated consumer devices to deliver a range of existing and new services.

Convergence is progressing rapidly in the marketplace. An example is the development of the Internet, which provides a full range of communication services including voice telephony and webcasting. Technological and service convergence, and the changes they are bringing in market structures are raising various challenges for the existing communication regulatory frameworks. With the convergence of communication services, it is becoming increasingly arbitrary to designate individual operators and even services as falling into one category or another. It is also becoming less sustainable to designate an infrastructure as being specific to a particular service. However, there still remain sharp regulatory distinctions among different communications services. While Internet services are not regulated in most countries[3], telecommunications and broadcasting services are subject to service specific regulation. In the majority of Member countries, the institutions traditionally responsible for regulating broadcasting and telecommunications are separate from one another. Even in countries with a single institution such as Canada, the United States, Japan, Switzerland and Italy, there is *de facto* separation in terms of laws and regulations.

Nevertheless, there have been significant regulatory developments concerning convergence. In 1996, there were only eight Member countries in the OECD area which allowed cable television operators to provide full PSTN services including voice telephony, *i.e.* Canada, Finland, Japan, Korea, New Zealand, Sweden, the United Kingdom and the United States[4]. However, since then, 13 more OECD countries have allowed cable operators to provide full PSTN services: Australia, Austria, Belgium, Denmark, France, Germany, Italy, Luxembourg, Mexico, the Netherlands, Norway, Spain and Switzerland. In the EU, the Commission issued the Full Competition Directive that required member countries to allow cable operators to provide voice telephony by 1 January 1998. The lifting of line-of-business restriction on cable operators helped stimulate competition in telecommunications markets and thus increased consumer benefits. In addition, a number of countries have allowed companies to use their fixed infrastructures for all types of communication services.

In December 1997, the EC published the "Green Paper on the Convergence of the Telecommunications, Media and Information Technology Sectors" to consult with EU member countries on the future regulatory regime in the communication sector. In the Green Paper, the EC put forward as one proposition for a future regulatory model the creation of a new horizontal regulatory model to cover the whole range of existing and new services in the communications sector. The OECD Secretariat had put forward a similar proposition in a paper presented to the TISP Working Party's Round Table on Convergence.

It is interesting to see this horizontal regulatory approach is also progressing in other industries where traditionally separated services have been integrated. For example, in the United Kingdom, Norway and Korea, a horizontal regulatory approach has been taken in the financial sector where traditionally there were separate regulators for banking, insurance and securities.

Nevertheless, not many institutional changes have been made to take into account convergence between telecommunications and broadcasting. Along with the political difficulty to integrate separate regulatory institutions, the special role played by media and content policy in some countries makes it delicate to merge broadcasting and telecommunications regulatory institutions. However, there is increasingly strong support being given to treat content and media policy as independent of the technology used to access the consumer.

Some countries have started to examine and revise their existing regulatory structures in the context of convergence. In the United Kingdom, following a broad consultation with the public and private sector, the Culture, Media and Sport Select Committee of the House of Commons has proposed to establish a Department of Communications with responsibilities for the currently separate telecommunications and broadcasting departments. It has also been recommended to merge the current regulatory bodies into one Communications Regulation Commission with overall responsibilities for regulation of

telecommunications, broadcasting and communications infrastructure. In the Netherlands, the independent regulator OPTA took the responsibility of regulating the cable television industry from the Media Commission. In particular, OPTA has the authority to take a decision in disputes between cable television companies and programme providers.

There are also efforts to make regulatory bodies more responsive to rapid changes in the communication market, in particular as a result of convergence. The Chairman of the FCC underscored the necessity to restructure the FCC in response to the changes resulting from convergence[5] and the Director General of OFTEL also pointed out the importance of the organisation of regulation in the light of convergence[6].

Forms of telecommunications regulator

When the 1993 OECD Communication Outlook was published, there were only seven OECD countries[7] with an independent regulator. As of 1 July 1999, of the 29 OECD countries, 22 countries have an independent regulator that is structurally separate from the Ministry or other parts of the government. In addition, there are two countries (Mexico and the Czech Republic) that have a functionally separate regulatory body within the Ministry. There are four countries (Japan, Korea, Poland and Turkey) where the Ministry is still responsible for regulatory supervision as well as policy functions while the competition authority is responsible for telecommunications regulation in New Zealand.

Among those countries that have a ministry as regulator, Poland is planning to establish a new independent regulator as set down in the draft of the new telecommunication law.

In Korea, while the Ministry of Information and Communication is responsible for telecommunications regulation, it has a semi-independent regulatory body, Korea Communications Commission (KCC), within the Ministry. In that commissioners are nominated by the President and enjoy a guaranteed term of office, KCC is relatively independent from the Ministry. Furthermore, it can take binding decisions on disputes between telecommunication operators.[8] Nonetheless, KCC is not equivalent to an independent regulator because it is a part of the Ministry and the most important regulations such as licensing, spectrum/number allocation and price regulation are exercised by the Ministry.

While both Mexico and the Czech Republic have a functionally separate regulatory body within the Ministry, their structure and responsibility are quite different. In Mexico, although the *Comisión Federal de Telecomunicaciones* (Cofetel) is located within the Ministry, it acts to some extent like a structurally independent body with autonomy in its budget and functions. Nevertheless, Cofetel does not have a full autonomy in its operations since the degree of independence is decided not by the law but by a Presidential Decree[9]. In the Czech Republic, the Czech Telecommunications Office (CTO) is an integral part of the Ministry of Transport and Communications. While the CTO enjoys a certain degree of autonomy in its operation, the Ministry retains the power to control CTO.

Table 1. Regulatory institutions in the telecommunications sector

Country	Regulator	Policy maker
Australia	Australian Communications Authority (ACA), Australian Competition and Consumer Commission (ACCC)	Department of Communications and the Arts
Austria	Telecom Control (TKC)	Federal Ministry for Science and Transport
Belgium	Belgian Institute for Postal Service and Telecommunications (BIPT)	Ministry of Telecommunications
Canada	Canadian Radio-television and Telecommunications Commission (CRTC)	Industry Canada
Czech Republic	Czech Telecommunications Office (CTO) : as a part of the Ministry of Transport and Communications	Ministry of Transport and Communications
Denmark	National Telecom Agency (NTA)	Ministry of Research and Information Technology
Finland	Telecommunications Administration Centre (TAC)	Ministry of Transport and Communications
France	*L'Autorité de Régulation des Télécommunications (ART)*	*Ministère de l'Economie, des finances et de l'Industrie*
Germany	Regulatory Authority for Telecommunications and Posts (Reg TP)	Federal Ministry of Economics and Technology
Greece	National Post and Telecommunications Commission (EETT)	Ministry of Transport and Communications
Hungary	Communication Authority	Ministry of Transport, Communications and Water Management
Iceland	Post and Telecommunication Administration (PTA)	Ministry of Communications
Ireland	Director of Telecommunications Regulation (ODTR)	Ministry of Public Enterprise
Italy	*Autorità Garante nelle Comunicazioni* (AGC)	Ministry of Communications
Japan	Ministry of Posts and Telecom (MPT)	MPT
Korea	Ministry of Information and Communication (MIC), Korea Communications Commission (KCC) as a semi-independent body within the MIC	MIC
Luxembourg	*Institut Luxembourgeois des Télécommunications (ILT)*	Ministry of Communications
Mexico	*Comisión Federal de Telecomunicaciones* (Cofetel) within SCT	Secretariat of Communications and Trasportation (SCT)
Netherlands	Independent Posts and Telecommunications Authority (OPTA)	Ministry of Transport and Public Works and Water Management
New Zealand	Commerce Commission : competition authority	Ministry of Commerce
Norway	Norwegian Post and Telecommunications Authority (NPT)	Ministry of Transport and Communications
Poland	Ministry of Post and Telecommunications	Ministry of Post and Telecommunications
Portugal	*Instituto das Comunicaçôes de Portugal (ICP)*	Ministry of Equipment, Planning and Territorial Administration
Spain	*Comisión del Mercado de Telecomunicaaciones* (CMT)	Ministry for Development (*Secretaria General de Comunicaciones*)
Sweden	National Post and Telecom Agency (NPTA)	Ministry of Transport and Communications
Switzerland	Communications Commission (ComCom), Federal Office for Communications (OFCOM)	Federal Council (Confederation's executive), Department of Environment, Transport, Energy and Communication
Turkey	Ministry of Transport and Communications	Ministry of Transport and Communications
United Kingdom	Office of Telecommunications (OFTEL)	Department of Trade and Industry
United States[2]	Federal Communications Commission (FCC)	FCC and National Telecommunications and Information Administration (NTIA) of the Department of Commerce

Notes: 1. ▭ Countries where the Ministry holds both regulatory and policy functions.
2. Entries for the United States only reflect telecommunications regulation at the federal level.
Source: OECD.

In New Zealand, there has been no sector specific regulatory body since the liberalisation of the telecommunications market in 1989. The Ministry of Commerce advises the Government on establishing telecommunications regulation, and the competition authority, the Commerce Commission, is responsible for the supervision of the telecommunications market based on the Commerce Act. Unlike most other OECD countries, there is no sector specific regulatory requirement except for special obligations on Telecom New Zealand, called the Kiwi Share Obligations, that in effect regulate the price and availability of residential telephone service. Instead of sector specific regulation, the regulatory regime for telecommunications in New Zealand relies primarily upon competition law to prevent anti-competitive behaviour. In other words, the primary constraint on the conduct of telecommunications firms in New Zealand is the same competition law that applies to all economic enterprises in New Zealand. Accordingly, in New Zealand, the courts play a greater role in the supervision of telecommunication regulation than in other countries that have sector specific regulations. While the competition law is a major regulatory framework in New Zealand, there are secondary regulatory measures that provide necessary regulatory guidelines in the marketplace. (See Box 1)

Box 1. **Secondary regulatory measures in New Zealand**

Because New Zealand primarily relies on general competition rules to supervise the telecommunication sector and has no sector specific regulator, it has used secondary regulatory measures on top of competition rules to provide regulatory guidelines in the telecommunications sector.

Special obligations on the incumbent

Under the Telecommunications Information Disclosure Regulations, Telecom New Zealand is required to disclose the price, including discounts in excess of 10%, of prescribed services and the full text of interconnection agreements with other parties. From 1 January 2000 Telecom New Zealand is required to disclose the financial accounts of its local loop business based on an avoidable cost methodology, and the net economic cost of its Kiwi Share Obligations. In 1990, on request from the Minister of Consumer Affairs, Telecom New Zealand agreed to publish quality of service indicators for residential telephone users.

Telecom New Zealand is also subject to the "Kiwi Share obligations" set out in its Constitution in respect of its residential services. There are three obligations:

- Local free calling will remain a tariff option available to all residential customers.
- The standard residential rental for a phone line will not rise faster than the consumer price index unless the profits of Telecom New Zealand's regional operating companies are unreasonably impaired; and
- The line rental for residential users in rural areas will be no higher than the standard residential rental and Telecom New Zealand will continue to make ordinary residential telephone service as widely available as it was in September 1990.

Government statement on competition

On 9 December 1991, the Government issued a statement on its policy for competition in the telecommunications market. It stated that "if it proves to be necessary, the Government will consider the introduction of other statutory measures or regulation. It will take particular care to ensure that it is not seen to be acting merely to enhance the commercial position of one firm or group within society at the expense of another". This statement, by threatening to introduce sector specific regulation if the current regulatory system was not working well, put pressure on the incumbent to act in good faith when it comes to negotiating with other parties, by threatening to introduce sector specific regulation.

Number administration and number portability industry forum

Telecommunications companies in New Zealand have established a Number Administration Deed mechanism to address future numbering issues. The key features of the mechanism are;

- A comprehensive set of numbering policies that emphasise the importance of achieving economic efficiency in the provision of telecommunication services.
- Appointment of an independent number administrator to administer numbering resources.
- Processes to ensure that long-term number portability is provided efficiently and effectively
- Dispute resolution through binding arbitration.

Where Member countries have an independent regulator, the size and responsibility of the independent regulators differs widely. This is evident when we look at two traditional independent regulators -- the FCC in the United States and OFTEL in the United Kingdom. The FCC has regulatory and policy responsibilities and has more than 2 000 employees. In contrast to the FCC, OFTEL only has about 160 employees and its responsibility is strictly limited to the regulation of the telecommunications sector. Since the structure of the independent regulator is a product of the political and legal system, it is not surprising to find many structural differences among independent regulators in the OECD region.

For example, unlike other regulators that are located within the government, in Austria the independent regulator (Telekom-Control) is a private sector non-profit limited liability company, which is wholly owned by the state. The Minister for Science and Technology exercises shareholder's right on behalf of the government.

In Australia, regulatory power has been shared between the ACA, the independent regulator, and the ACCC, the competition authority. This model is quite unique in the sense that the Telecommunications Act (1991) gives sector specific regulatory powers to the competition authority. One other interesting case is Switzerland where there are two regulatory bodies, the Communications Commission (ComCom) and the Federal Office for Communications (OFCOM). ComCom is an independent regulatory body responsible for making fundamental decisions in the telecommunications field. It is aided by the OFCOM, which prepares ComCom's files, submits proposals to it and implements its decisions. The OFCOM carries out these tasks independently, while ComCom's responsibilities and its power to issue directives are taken into account.

Administrative structure of the Independent regulator

Where there is a sector specific independent regulator, countries need to decide how much autonomy should be given to the independent regulator. While 'independence' does not mean independence from government policy but rather means independence to implement regulations and policies without intervention from interested parties, this 'independence' can be ensured only when the regulator has enough strength to implement regulatory rules without unnecessary intervention from the Ministry or other government bodies that are shareholders of the incumbent. If the Ministry or other government bodies retain power to control a newly established independent regulator, there would be a possibility that the independent regulator is unduly influenced by interested parties through the Ministry or other government bodies. The administrative structure of the regulatory body is very important in this regard.

While the degree of independence is also influenced by factors such as political traditions and the personality of the head of the regulatory body, the single most important factor is the institutional structure of the regulator. In fact, the degree of independence varies from country to country according to the institutional arrangements put in place by laws and regulations.

There are a few indicators, which can be used to measure the degree of independence:

- Whether the regulatory body is structurally separated from the Ministry?
- Who appoints the head of the regulatory body? Are the terms of commissioners guaranteed? What is the structure of the decision making body within the regulator?
- To whom does the regulator report?
- How is the regulatory body financed?
- Are there government institutions that can overturn the decisions of the regulatory body other than the court?

- How does the regulator recruit its employees? Can the Minister give instructions to shift employees between the regulator and the Ministry?

In theory, the independence can be strengthened if:

- The regulator is structurally separate from the Ministry.
- The head of the regulatory body is appointed by the head of the Government (*i.e.* President or Prime Minister) with the approval of the legislative body.
- The regulator is headed not by a single person (*e.g.* a director general) but by a collegiate body (*e.g.* a commission) which has several commissioners with guaranteed fixed staggered terms.
- The regulator reports to a body, which does not make policy decisions in the sector.
- Only the courts can overturn the decisions of the regulatory body.
- The regulator has autonomy to recruit its employees and to make personnel changes.

As mentioned before, it is very important to have a regulatory body independent from all interested parties in order to ensure fair and transparent competition in the marketplace. However, it is important to bear in mind that the ultimate objective is not to have an 'independent regulatory body' *per se* but an effective regulatory framework which enables the market to become competitive, stimulate technological diffusion and enhance efficiency, while ensuring that consumers benefit. In fact, close co-operation between the independent regulator and policy maker is essential to ensure that regulation is more responsive to government policy decisions. Furthermore, the independent regulator is an administrative body of the government, which requires that its actions are monitored and that it is accountable for its actions. So there must be administrative measures to oversee the activities of the independent regulator.

Therefore, it is very difficult to say how much autonomy should be given to the independent regulator and each country may have different preferences on this issue, based on its political and economic context. Nevertheless, it is essential to ensure a certain degree of structural independence, which is necessary for the independent regulator to implement its regulatory mandate without any intervention. If there is room for other parties to use structural weakness of the independent regulator, the independent regulator cannot exercise its regulatory power, which derives from the laws and regulations.

Below, we will examine how Member countries have designed the administrative structure of the regulatory body.

Reporting

It is possible to identify three types of reporting mechanisms for the independent regulators. The most popular type is reporting to the Ministry responsible for telecommunication policy. In some countries, such as Austria, Germany and the United States, the independent regulator is required to report to the legislative body. In Canada, the CRTC reports to Parliament through the Minister of Canadian Heritage. In addition, there are a few countries that do not impose any statutory reporting obligation on the telecommunication regulator except the publication of an annual report.

In most cases, the reporting obligation is not very specific. Thus, reporting in many Member countries is often through a publication of an annual report that covers the activities of the regulator. But, some countries put very specific reporting obligations on the telecommunication regulator. For example, in Australia, ACA reports each year to the Minister on significant matters relating to the "performance" of carriers and carriage service providers.

Table 2. Reporting obligations of the telecommunication regulator

Country	Regulator	Reports to
Australia	ACA	Ministry
Austria	TKC	Legislature (and Ministry)
Belgium	BIPT	No reporting responsibility except publishing an annual report
Canada	CRTC	Ministry (Legislature)
Czech Republic	CTO	Ministry
Denmark	NTA	Ministry
Finland	TAC	Ministry
France	ART	Annual report to the Government and Parliament
Germany	Reg TP	Legislature every two years
Greece	EETT	Ministry
Hungary	Communication Authority	Ministry
Iceland	PTA	-
Ireland	ODTR	Ministry
Italy	AGC	Annual report to the Prime Minister and Legislature
Japan	MPT	-
Korea	MIC	-
Luxembourg	ILT	-
Mexico	Cofetel	No reporting responsibility except publishing an annual report.
Netherlands	OPTA	Annual report to the Ministry
New Zealand	Commerce Commission	(Outcomes monitored by the Government)
Norway	NPT	Ministry
Poland	Ministry of Post and Telecommunication	-
Portugal	ICP	Ministry of Equipment
Spain	CMT	Ministry
Sweden	NPTA	Annual report to the Ministry.
Switzerland	ComCom and OFCOM	ComCom: Annual report to the Federal Council (Confederation's executive). OFCOM provide information on its management of the sector to the Ministry.
Turkey	Ministry of Transport and Communications	-
United Kingdom	OFTEL	Ministry
United States[2]	FCC	Legislature

Notes: 1 Countries where the Ministry holds both regulatory and policy functions.
2. Entries for the United States only reflect telecommunications regulation at the federal level.
Source: OECD, ITU *General Trends in Telecommunication Reform 1998*.

Financing

In most cases, the independent regulator's budget has to be approved or endorsed by the government before the finalisation of the national budget by the legislative body.

There are two different ways to finance the independent regulator's budget. One is to allow the regulator to collect money from the industry through fees and contributions. Currently 15 countries are using fees as a major financial source for the regulator. In general, the regulators receive licence fees, spectrum fees, and fees from the sale of numbers. Four countries -- Ireland, Spain, Luxembourg and Sweden -- receive a levy from operators in relation to an operator's turnover. For instance, in Spain, any holder of a general authorisation or individual licence for the provision of services to third parties is obliged to pay a charge of 0.15% of revenue on an annual basis. Austria is the only country that uses both fees and telecommunication operator's contributions as a financial source. TKC is partly financed through licence fees and partly through proportional financial contributions made by all service providers which do business in the Austrian market.

In those countries where both government appropriation and fees are used as financial resources for the regulator, the government appropriation is made only when there is insufficient revenue from fees. Thus the majority of regulators' budgets come from fees. For example, in Denmark, 95% of the regulator's budget is financed directly by the telecommunications sector. In the United States, in Fiscal Year 1999 (1 October 1998 to 30 September 1999), the FCC's total budget was USD 192 000 000, and of this amount, USD 172 500 000 was financed by regulatory fees from regulated entities and USD 19 500 000 was from US Treasury appropriations.

Only two separate telecommunication regulators -- the ACC in Australia and ART in France -- are financed directly from the national budget. In Australia, the cost of operations is provided by the national budget and all ACA's revenue is returned to the national budget.

Appointment of the head of the regulatory body

The degree of independence of the regulatory body is partly dependent on how the head of the regulatory body is appointed and under what conditions he or she can be replaced. If the decision making body is composed of the commissioners who are appointed by different branches of the government (for instance, some of the commissioners are appointed by the head of the administrative body and the others by the legislative body), the regulator can be more independent as a result of its diverse membership. A guaranteed term of office for the head of the regulatory body is another indispensable element to ensure the independence of the regulator. With a guaranteed term of office, the head of the regulatory body can exercise regulatory power without considering political interests that may influence his office. Conversely, if the head of the regulatory body is a civil servant, who can be replaced by the Minister at any time, the regulator's independence can be weakened.

Table 3. Financial source of regulator

Country	Name of NRA	Financing Source
Australia	ACA	Appropriation
Austria	TKC	Fees and contribution
Belgium	BIPT	Fees
Canada	CRTC	Fees
Czech Republic	Ministry of Transport and Communications (CTO)	Appropriation
Denmark	NTA	Fees and appropriation
Finland	TAC	Fees
France	ART	Appropriation
Germany	Reg TP	Fees and appropriation
Greece	EETT	Fees
Hungary	Communication Authority	Fees
Iceland	PTA	Fees
Ireland	ODTR	Contribution by licensed operators
Italy	AGC	Appropriation (plan to collect fees)
Japan	MPT	Appropriation
Korea	MIC	Appropriation
Luxembourg	ILT	Contributions from operators
Mexico	COFFETEL	Appropriation
Netherlands	OPTA	Fees
New Zealand	Commerce Commission	Appropriation
Norway	NPT	Fees
Poland	Ministry of Post and Telecommunication	Appropriation
Portugal	ICP	Fees
Spain	CMT	Contribution from operators based on their turnover
Sweden	NPTA	Contribution from operators based on their turnover
Switzerland	ComCom and OFCOM	ComCom: Fees OFCOM: Fees and appropriation
Turkey	PTT	Appropriation
United Kingdom	OFTEL	Fees.
United States[2]	FCC	Fees and appropriation

Notes: 1. Countries where the Ministry holds both regulatory and policy functions.
2. Entries for the United States only reflect telecommunications regulation at the federal level.
Source: OECD, ITU *General Trends in Telecommunication Reform 1998*.

In most Member countries, the head(s) of the independent regulator is (are) appointed by the Minister or the President based on the recommendation of the cabinet or the Minister. For example, in Germany the President and two vice-presidents of the Reg TP are nominated by the federal government upon the proposal of the Advisory Council to the Reg TP. Then, they are appointed by the Federal President. The responsibilities of the President of the Reg TP are stipulated in a contract between the Federal Ministry of Economics and Technology and the President of Reg TP. This contract is subject to approval by the federal government.

The decision making authority of independent regulators in 22 Member countries is headed either by a single person or by a collegiate body where the decision is often made by simple majority. The independent regulators that have a collegiate body usually have a secretariat, which assists the collegiate body. Belgium, the Czech Republic, Denmark, Germany, Hungary, Iceland, Ireland, Luxembourg, Norway, and the United Kingdom have a telecommunication regulator headed by a single person.

In many countries that have a collegiate decision making body, the legislature is involved in the selection of the head of the regulatory body. In the United States, the FCC's commissioners are appointed by the President and confirmed by the Senate for staggered five-year terms. No more than three can be members of the same political party. In France, three of the five Executive Board members, including the Chairman, are appointed by presidential decree. The other two are chosen by the Chairman of the Senate and by the Chairman of the National Assembly respectively. In Italy, the Prime Minister appoints the President of the AGC while the eight commissioners are nominated by the Parliament. In Spain, the chairman of CMT is appointed by the government, subject to parliamentary approval, with other members appointed by the Minister of Development for five years, with removal only for "exceptional and well established reasons".

Table 4. Appointment of the head of regulatory body

Country	Appointed by:	Term of office
Australia	The Governor - General	Not more than 5 years.
Austria	The government	5 years.
Belgium	The Minister	6 years.
Canada	The governor in council	5 years.
Czech Republic	The Minister	Indefinite.
Denmark	The Minister	Indefinite.
Finland	The President	Indefinite.
France	The President (executive board members are appointed by the President, the National Assembly and the Senate)	6 years.
Germany	The President	5 years.
Greece	The Minister	5 years.
Hungary	The Minister	Indefinite.
Iceland		
Ireland	The Minister	Indefinite (can only be removed by the Parliament).
Italy	The Prime Minister (commissioners are elected by the Parliament)	7 years.
Japan	-	-
Korea	The President	3 years.
Luxembourg		
Mexico	The President (on the advice of Minister)	Indefinite.
Netherlands	The Minister	4 years.
New Zealand	The Minister	
Norway	The government	Indefinite.
Poland	-	-
Portugal	The Council of Ministers	3 years.
Spain	The government. Need approval from the Parliament.	5 years.
Sweden	The government	6 years.
Switzerland	ComCom: the Federal Council OFCOM: the Minister	4 years. Indefinite.
Turkey	-	-
United Kingdom	The Minister	5 years.
United States	The President. Need to be confirmed by the Senate.	5 years.

Notes :1. Countries where the Ministry holds both regulatory and policy functions.
2. Entries for the United States only reflect telecommunications regulation at the federal level.
Source: OECD.

Jurisdiction

It is very important to ensure the authority of the independent regulator's decision within the government body because independence could be hampered if other government institutions can overturn decisions. In the majority of countries, the independent regulator's decision cannot be overruled except through a court decision. In addition, in many countries, while the court can nullify the decisions of the independent regulator it cannot impose a new decision on the issue.

However, there are countries, such as Canada, Mexico and Hungary, that give the Minister or the cabinet power to make changes to the decisions of the independent regulator either based on appeals or on their own discretion.

In addition, in Denmark and Norway, there are special appeals boards that can overturn the decisions of the independent regulator. In Denmark, there are two appeals boards which can overturn NTA's decision. As well as resorting to the courts, complaints concerning NTA's decisions and administration on individual cases can be appealed to the Telecommunications Consumer Board and the Telecommunications Complaints Board. In Norway, the Norwegian Telecommunications Appeals Board is the competent authority to deal with complains on NPT's decisions. Although some Member countries have an organisation for consumer complaints, the existence of the special appeals boards where operators can file complaints against the regulator's decisions is a unique feature of the telecommunications sector in Denmark and Norway.

Table 5. Ability to overrule the independent regulator's decision

Country	Names of organisations that can overturn regulator's decision other than the court	Notes
Australia	None.	
Austria	None.	
Belgium	None.	
Canada	Governor in council.	The Governor in Council can vary or rescind a decision or refer it back to the regulator for reconsideration of all or a portion of it.
Czech Republic	-	-
Denmark	Telecommunications Complaints Board and Telecommunications Consumer Board.	The Telecommunications Consumer Board is responsible for issues regarding consumer protection and the Telecommunications Complaints Board is responsible for dealing with complaints from operators.
Finland	None.	
France	None.	
Germany	None.	
Greece	None.	
Hungary	Minister (except broadcasting).	Minister can overturn a regulator's decision only when there is an appeal. Minister's decision can be appealed to the court.
Iceland		
Ireland	None.	
Italy	None.	
Japan	-	-
Korea	-	-
Luxembourg		
Mexico	Minister.	
Netherlands	None.	The Minister can issue general instructions to the regulator, but not regarding a specific individual decision.
New Zealand	-	
Norway	The Norwegian Telecommunications Appeals and Advisory Board, The Ministry of Labour and Governmental affairs (competition related matters).	
Poland	-	-
Portugal	None.	
Spain	None.	
Sweden	None.	
Switzerland	None.	
Turkey	-	-
United Kingdom	The Monopolies and Mergers Commission.	The Commission can overturn OFTEL's decision in a case where a telecommunication operator cannot agree to a modification of its licence.
United States[2]	None.	

Notes :1. Countries where the Ministry holds both regulatory and policy functions.
2. Entries for the United States only reflect telecommunications regulation at the federal level.
Source: OECD.

Relationship between the sector specific regulator and the general competition authority

As the telecommunications market shifts from monopoly to competition, there has been increasing involvement of the competition authority in the telecommunications sector. In general, the telecommunication regulator is responsible for technical regulation (*e.g.* spectrum allocation, number allocation, type approval, and standard setting) as well as telecommunication specific economic and social regulation (*e.g.* licensing, universal service, price regulation, the interconnection regime and rights-of-way). On the other hand, in most countries the competition authority is responsible for anti-competitive behaviour and mergers. In contrast, in a few countries such as the United States, Japan and Korea, both the competition authority and the telecommunication regulator have a certain responsibility over anti-competitive behaviour and mergers.

As the role of the competition authority has grown in the telecommunications sector, the possibility of inconsistent regulatory rulings between the competition authority and the telecommunication regulator has increased. While the principle of *lex specialis* usually applies when there is a conflict between telecommunications regulation and general competition rules, there are increasing grey areas where both regulators can take regulatory actions as competition develops. For this reason, telecommunication operators demand regulatory predictability from the government in order to reduce the risk of making wrong business decisions or delaying business activities because of conflicting jurisdiction of regulatory bodies.

There are principally three models to ensure concurrent jurisdiction in the telecommunication sector. The first is to give full regulatory power to the competition authority to supervise competition issues in the market place as in New Zealand, which uses general competition laws enforced by the courts. This model has an advantage that it can ensure consistent regulatory supervision across industries. However, for industries in transition from monopoly to competition, this model may have a problem in promoting competition due to problems posed by access to essential facilities, which characterise this sector.

The second model is to give authority to the telecommunication regulator to apply competition rules to the telecommunication sector. Except in specific cases where general competition rule is included within telecommunications laws, in most cases, the telecommunications regulator is not entitled to apply competition rules in the telecommunications sector. However, the United Kingdom gives powers to the telecommunications regulator to apply competition rules in the sector. Indeed, OFTEL is allowed to apply competition rules in the sector by issuing a determination against a telecommunication operator for infringing its licence[10]. Furthermore, from 2000, OFTEL will take on new powers to deal with anti-competitive behaviour in the telecommunications market based on the Competition Act. This model helps the telecommunications regulator to choose the most appropriate regime between telecommunications regulation and competition rule, to tackle a particular problem[11]. The downside of this model is that there might be inconsistent interpretation and implementation of competition law among different sector specific regulators if there are no guidelines to apply competition law. In the United Kingdom, in order to prevent inconsistent interpretation and implementation among sector specific regulators, all regulators, including OFTEL, are currently feeding into the Concurrency Working Party, to co-ordinate the application of the Competition Act of 1998.

The third model is to establish a co-ordination mechanism, which helps to resolve competition issues in the telecommunications sector. A number of countries have a formal co-ordination mechanism. For instance, in Switzerland, there is a formal co-ordination mechanism between the OFCOM and the Competition Commission for issues of interconnection[12]. In Germany, the Telecommunications Act stipulates specific cases, which should be administered by co-operation between the Reg TP and the Federal Cartel office[13]. In France, the chairman of ART must notify the Competition Council of any abuse of dominant position or anti-competitive behaviour in the telecommunications sector. In Portugal, in the area of interconnection,

before designating entities with significant market power, the independent regulator must have the competition authority's opinion. In addition, the independent regulator and the competition authority have joint responsibility to monitor compliance with price regulation such as price caps. The price agreements are made among ICP, the competition authority, and Portugal Telecom. In Denmark, when approving interconnection agreements or maximum prices of Tele Denmark's universal service, the NTA needs to obtain a binding opinion from the Competition Council on whether the agreement or price is in breach of the Competition Act.

In the Netherlands, in spite of the lack of an official co-ordination mechanism, the sector specific regulator and the competition authority have agreed upon, and published a co-operation protocol. This protocol describes the mechanism which will determine the regulatory institution in charge of specific cases and questions. In principle, OPTA functions as a first port of call for cases related to the telecommunications sector.

Formal and informal consultation is also widely used by Member countries to maintain regulatory consistency. In Germany, before the Reg TP takes decisions on price regulation, open access to networks and interconnection, and on additional rules on licences in order to guarantee regulation objectives, the Federal Cartel Authority must first be given the opportunity to state its opinion. In Sweden, the independent regulator (NPTA) has a responsibility to bring to the attention of the competition authority any competition issues within the field of telecommunications. In Mexico, the competition law stipulates that entities of the public administration, such as Cofetel, can consult the competition authority on any matter related to competition or free markets. In Spain, the regulator reports its views regarding the desirability of mergers and take-overs to the Competition Defence Service.

There has been no formal co-ordination mechanism in the United States, Canada and Japan where the telecommunications regulator and the competition authority make independent judgements based on their legal authority. In Canada, while there is no formal co-ordination mechanism between the sector specific regulator and the general competition authority, it has been the practice of the competition authority to submit formal comments on competition issues in the context of CRTC proceedings.

Division of regulatory responsibilities in the telecommunications sector

Where an independent regulator has been established, in principle, the establishment of the regulatory framework is the responsibility of the Ministry and the implementation and administration of this regulatory framework is the responsibility of the independent regulator. Nevertheless, in practice, there is a wide difference in how countries divide regulatory responsibilities between the Ministry and the independent regulator. This is in part due to the lack of a clear-cut standard that can be used to distinguish regulatory functions from policy functions. Indeed, policy and regulatory functions are highly interrelated in that regulation is a means to achieve policy objectives.

However, despite the difficulties in distinguishing regulatory functions from policy functions, it is necessary to give sufficient regulatory power to the independent regulator to enable it to function as a competent 'industry watch-dog'. If the Ministry retains regulatory power, in spite of the presence of an independent regulator, industry will have to deal with two sector specific regulators in addition to the competition authority. Moreover, the Ministry's involvement in regulation may raise a question of regulatory neutrality where the Ministry as a shareholder of the incumbent is also responsible for regulating the incumbent.

Below, the issue of how the regulatory responsibilities are shared among regulatory institutions in the telecommunications sector is examined.

Licensing

While oversight of licence obligations is clearly a regulatory matter, the question of which body should issue a licence is less clear. For fixed telecommunications services, if the market is fully liberalised, the issue of licence is no more than a means to verify if minimum requirements to enter the market have been met. In this context, many OECD countries have granted power to issue a fixed telecommunications licence to the independent regulator after market liberalisation. However, there are a few countries that still give licensing power to the Ministry. In the United Kingdom, while the Secretary of State for Trade and Industry issues new licences, OFTEL initiates the modification of licence conditions.

Unlike the fixed telecommunications market, the mobile market has a limited number of market players because of the scarcity of frequencies. In this case, it could be argued that the Ministry should decide on how many (regional/national) licences would be granted for specific mobile services. Such an argument is based on the fact that spectrum is considered as a national asset and, therefore, a mobile licensee only receives a right to provide services by leasing spectrum from the government for a definite period. However, another perspective would be to argue that the independent regulator is responsible for ensuring the development of competition in the telecommunication sector and, as such, is better placed to determine how many licences should be provided given existing spectrum plans.

Canada, the Netherlands and Spain have given the authority to issue a mobile licence to the Ministry while the independent regulator is responsible for issuing a fixed licence or registering of fixed telecommunications operators. In the meantime, some countries have given the responsibility to issue licences to the independent regulator while the Ministry decides how many licences will be issued.

In the context of merger reviews between telecommunication companies, the majority of Member countries give this responsibility to the competition authority. But some Member countries give exclusive authority to the Ministry or the independent regulator to control mergers in the telecommunications sector on the basis that a merger changes a licensee's legal status. In countries like the United States, Japan, Germany[14] and Canada, both the telecommunication regulator and the competition authority exercise the regulatory power over mergers.

Table 6. Division of regulatory responsibilities for licensing

Country	Issuing licence		Oversight of Licence Requirements	Approval of Merger	Notes
	Fixed	Mobile			
Australia	R	R	C	C	While there are no licensing requirements to provide tele-communications services, owners of certain telecommunications infrastructure used to supply carriage or content services to the public must hold a carrier licence or have in place arrangements for another carrier to take on all carrier related responsibilities in regard to that infrastructure. The ACCC may issue a formal warning if a carrier contravenes any of the following conditions of the carrier licence held by the carrier.
Austria	R	R	R		
Belgium	M	M	R	C	
Canada	R	M	R (fixed), M (mobile)	C, R	
Czech Republic	R	R	R	R	
Denmark	-	R	R	C	No licence or registration is required for operators to enter the fixed voice telephony market.
Finland	M	M	M	C	In fixed voice telephony services, only notification is required.
France	M	M	R	C,R	In case of mergers, ART is responsible for the verification of compatibility with the licence conditions.
Germany	R	R	R	C,R	In case of mergers, Reg TP is responsible for the verification of compatibility with the licence conditions.
Greece	M	M	R	C	
Hungary	R	R	R	C	
Iceland	R	R	R		
Ireland	R	R	R	C	
Italy	R	R	R	C	Mobile licences are granted by the AGC in co-operation with an *ad hoc* Ministerial Committee
Japan	M	M	M	C,M	
Korea	M	M	M	M	
Mexico	M	M	R	C	Concerning new licences, the regulator submits its opinion to the Ministry for mobile services, the regulator is responsible for the auction process, while the ministry grants a licence.
Netherlands	R	M	R	C	In fixed voice telephony services, only registration is required.
New Zealand	Not required	See note	-	C	Mobile networks require manage-ment rights, which are sold by public auction. The management rights are tradable in the market.
Norway	M	M	M	C	A licence is only required for operators with significant market power.

Table 6. Division of regulatoryresponsibilities for licencing *(cont'd)*

Country	Issuing licence		Oversight of Licence Requirements	Approval of Merger	Notes
	Fixed	Mobile			
Poland	M	M	M (PITIP)	M	The National Postal and Telecommunications Inspectorate (PITIP) is monitoring licensed operators' activities on behalf of the Ministry.
Portugal	R	R	R	C	In case of merger control, the competition authority must receive advice from ICP.
Spain	R	M	R	C	
Sweden	R	R	R	C	
Switzerland	R	R	R	C	The OFCOM grants licences for telecommunications services where there is no public invitation to tender. In principle, this applies to all fixed telecommunications licences, except for the universal service licence, granted by ComCom. Mobile licences are granted by public tender. ComCom and the OFCOM both have responsibility to oversee licence requirements.
Turkey	M	M	M		
United Kingdom	M	M	M, R	C	
United States[2]	R	R	R	C,R	

Notes :1 Countries where the Ministry holds both regulatory and policy functions.
2. Entries for the United States only reflect telecommunications regulation at the federal level.
M - Ministry, **R** - Independent telecommunications regulator, **C** - Competition authority.
Source: OECD.

Interconnection

In general, interconnection rules are laid down in the telecommunications law, which usually requires that all telecommunications operators negotiate with parties who request to interconnect to their networks. In most cases, while interconnection agreements between operators with no market power are regarded as a commercial matter in which the telecommunication regulator may intervene only in the case of a dispute between two parties[15], the interconnection charges of operators with 'significant market power' are subject to the authorisation of the regulator[16].

A survey of Member countries clearly shows that the function of dispute resolution in interconnection is considered a regulatory function in the domain of the independent regulator. In addition, in most countries where authorisation is required for interconnection charges of operators with 'significant market power', the independent regulator is the responsible body.

It is notable that Korea has given responsibility for dispute resolution to KCC while the Ministry keeps the power to authorise interconnection charges of the incumbent. In spite of the fact that KCC is an advisory board attached to the Ministry, the Telecommunication Basic Law gives it full authority to deal with disputes on interconnection. In Australia, the competition authority (ACCC) has exclusive authority on the

Table 7. Regulations on interconnection

Country	Authorisation of Interconnection charges of operators with 'significant market power'	Dispute resolution	Notes
Australia	C	C	PSTN originating and terminating access charges are set either by commercial agreement, by an access undertaking approved by the ACCC, or through arbitration.
Austria	R	R	
Belgium	M (R)	R	Operators with a strong market position need authorisation for interconnection charges from the Minister. The authorisation has been made by the regulator's public advice.
Canada	R	R	Interconnection rates are approved by the CRTC. The CRTC requires all local exchange carriers to interconnect with each other and with all long-distance carriers and wireless service providers.
Czech Republic	No authorisation	R (technical aspects), Ministry of Finance (price)	
Denmark	R	R	
Finland	R	R	
Country	Authorisation of interconnection charges of operators with 'significant market power'	Dispute resolution	Notes
France	R	R	
Germany	R	R	
Greece	R	R	
Hungary	M	R	Charges for interconnection are set by the Minister of Transport, Telecommunications and Water Management in agreement with the Minister of Finance.
Iceland	No authorisation	R	
Ireland	R	R	
Italy	R	R	
Japan	M	M	Designated carriers should provide interconnection rates in advance and obtain prior Ministerial authorisation (NTT's local network is a "designated facility").
Korea	M	R	Dispute resolution is made after KCC arbitration.
Luxembourg	R	R	
Mexico	R	R	
Netherlands	R	R	
New Zealand	No authorisation	Court	All agreements have provision for independent arbitration. Parties have recourse to the court system to adjudicate breaches of competition law.
Norway	No authorisation	R	
Poland	M	M	
Portugal	R	R	ICP can intervene in the negotiation of interconnection agreements between carriers.
Spain	R	R	
Sweden	R	R	
Switzerland	No authorisation	R	Interconnection rules are stipulated by the Federal Council. If there is a dispute, the OFCOM leads the negotiations. If no agreement can be reached, ComCom takes a decision.
Turkey	No authorisation	M	
United Kingdom	R	R	
United States	R, State Public Utility Commissions (PUCs)	R, PUCs	Privately negotiated agreements must be approved by the relevant State Commission.

Note: ▭ Countries where the Ministry holds both regulatory and policy functions.
M - Ministry, **R** - Independent telecommunications regulator, **C** - Competition authority.
Source: OECD.

access regime in telecommunications in spite of the presence of the sector specific regulator (ACA). In the Czech Republic, the Ministry of Finance is involved in dispute resolution when the issue is related with interconnection charges. In the meantime, CTO is responsible for technical aspects of dispute resolution in interconnection.

Spectrum management

Due to the scarcity of spectrum, the government needs to decide which bandwidth will be used for specific services. Since radio spectrum is used for both broadcasting and telecommunications purposes, spectrum planning needs to incorporate the needs of broadcasting services. Public ownership of spectrum, and the need to incorporate broadcasting demands has led to Ministries or other government institutions to take a major role in establishing spectrum planning in many OECD countries. Even countries where the independent regulator has the authority for spectrum planning, it is not difficult to find that the Ministry or other government institutions reserve a right to ask or make changes to the spectrum plan (*e.g.* Australia).

The allocation of spectrum is to some extent a policy implementation issue. If the spectrum plan decides to use a certain bandwidth for a specific telecommunication service, the regulatory body only needs to issue a licence according to a chosen spectrum allocation method (*e.g.* tender, "beauty contest", or balloting).

It is very important to have a competitive neutral spectrum allocation method, which does facilitate fair competition in the marketplace. While the Ministry needs to be a major participant to set up a spectrum plan, it may be more effective if the independent regulator is in charge of spectrum allocation.

Numbering

As competition develops, the importance of number management has been emphasised in order to ensure equal access to new entrants. In this regard, in the Interconnection Directive, the EC required its member states to ensure that national telecommunications numbering plans are controlled by the national regulatory authority, in order to guarantee independence from organisations providing telecommunications networks or telecommunications services and facilitate number portability.

In most OECD Member countries, the independent regulator has the authority in number allocation. In terms of number planning, there are a several countries where the Ministry has an authority on number planning. Among them, the Netherlands and Denmark have given authority to the independent regulator to participate in the process of number planning.

Table 8. Division of regulatory responsibilities

Country	Spectrum planning	Spectrum allocation	Notes
Australia	R	R (M)	The Minister may, after consultation with the ACA and the ABA, and in accordance with the spectrum plan, by written instrument: (a) designate a part of the spectrum as being primarily for broadcasting purposes; and (b) refer it to the ABA for planning.
Austria	M	M	
Belgium	R	R	
Canada	M	M	
Czech Republic	R, Council of the Czech Republic for Radio and Television Broadcasting (CB)	R, CB	CB: Council of the Czech Republic for Radio and Television Broadcasting.
Denmark	M	R	
Finland	R	R	
France	*Agence Nationale des Fréquences*	R	ART is a member of the executive board of the *Agence Nationale des Fréquences*, alongside other administrations that manage frequencies (Defence, Interior, Transport, etc.) and the broadcasting authority (CSA).
Germany	R M	R M	
Greece	M	M	
Iceland		R	
Ireland		R	
Italy	R	M	
Japan	M	M	
Korea	M	M	
Luxembourg		R	
Mexico	R M	R	Cofetel submits the annual auction programme to the Ministry for its approval.
Netherlands	M	M	OPTA advises on economic aspects in the Minister's radio spectrum allocation decisions.
Norway	R	R	
Poland	M	M	The National Radio-communication Agency is responsible for technical aspects of spectrum planning.
Portugal	R	R	
Spain	M	M	
Sweden	R	R	
Switzerland	R	R	The OFCOM regulates and manages its use on the basis of the national plan for the allocation of frequencies approved by ComCom.
Turkey	General Directorate of Radio-communication	General Directorate of Radio-communication	
United Kingdom	R.A. agency	R.A. agency	R.A. agency is responsible for spectrum planning and allocation.
United States	R M	R M	The NTIA allocates federal government spectrum and the FCC allocates all other spectrum including state government spectrum.

Note: Countries where the Ministry holds both regulatory and policy functions.
M - Ministry, **R** - Independent telecommunications regulator, **C** - Competition authority.
Source: OECD.

Table 9. Division of regulatory responsibilities in numbering

Country	Numbering plan	Number allocation	Notes
Australia	R	R	The ACA works closely with Numbering Advisory Committee (NAC) to formulate and administer numbering policy. NCA functions as a forum for representatives of users of numbers.
Austria	M	R	
Belgium	R	R	
Canada	R	R	
Czech Republic	R	R	
Denmark	R M	R	The numbering plan is drafted by the NTA under a general framework set up by the Ministry.
Finland	R	R	
France	R	R	
Germany	R	R	
Greece	M	R	
Hungary	M	R	
Iceland	R	R	
Ireland	R	R	
Italy	R (M)	R	
Japan	M	M	
Korea	M	M	
Luxembourg	R	R	
Mexico	R	R	
Netherlands	M	R	In case of number planning, OPTA advises the Minister.
New Zealand	See note	See note	The numbering plan and allocations are administered under a Number Administration Deed by an industry body comprising telecommunication operators with an interest in numbering.
Norway	R M	R	
Poland	M	M	
Portugal	M R	R	
Spain	M	R	
Sweden	R	R	
Switzerland	R (ComCom)	R (OFCOM)	
Turkey	M	M	
United Kingdom	R	R	
United States	R	R	The FCC established the North American Numbering Council (NANC) to assist in adopting a new model for administration of the North American Numbering Plan (NANP).

Note: Countries where the Ministry holds both regulatory and policy functions.
M - Ministry, **R** - Independent telecommunications regulator, **C** - Competition authority.
Source: OECD.

Price regulation

Since general competition rules apply to the telecommunication sector in most OECD countries, the competition authority has competence to deal with predatory pricing in telecommunications. Thus, in Finland, which does not have telecommunication specific price regulation, the competition authority is responsible for price regulation in the telecommunications sector. Where there is telecommunication specific price regulation, the telecommunication regulator is responsible for special price regulation, which is often imposed only on the incumbent in the context of asymmetric regulation.

However, there are a number of Member countries where the competition authority is involved in price regulation in spite of the presence of telecommunication specific regulation. In Australia, except for directory assistance charges[17], the ACCC is responsible for price regulation. In Portugal, price-caps are

negotiated between the independent regulator, the competition authority and Portugal Telecom. Then, the price-cap agreement needs to be approved by the Ministers who are in charge of communications, and competition.

It is interesting to note that the Ministry of Finance is involved in price regulation in the Czech Republic. The Ministry of Finance approves prices of domestic telecommunication services while CTO is responsible for price regulation in international voice telephony services.

Table 10. Regulations on pricing

Country	Type of regulation	Coverage of regulation	Regulatory body	Notes
Australia	Price cap	Incumbent PTO only	C	
Austria	Tariff approval	Voice telephony services via a fixed network and leased lines where the supplier has significant market power.	R	
Belgium	Price cap	Basic voice telephony services under the universal service obligation.	M	
Canada	Price cap or prior approval	Incumbent PTOs only: Utility segment services (local and optional).	R	
Czech Republic	Price cap	Voice telephony services via fixed network.	Ministry of Finance: domestic voice telephony services, CTO: international voice telephony services.	
Denmark	Price cap	USO services.	R	
Finland	-	-	C	No telecommunica-tion-specific price regulation.
France	Tariff approval Price cap	Monopoly and USO services.	M	
Germany	Tariff approval	Transmission lines and voice telephony services where the provider has a dominant market position.	R	A carrier must be given an opportunity to state its opinion before a decision.
Greece	Price cap	Incumbent's services.	R	
Hungary	Price cap	Voice telephony services provided on fixed network.	M	
Iceland	-	-		No telecommunica-tion-specific price regulation.
Ireland	Price cap for a basket of services	PSTN and ISDN services.	R	
Italy	Price cap	Main Telecom Italia network services.	R	
Japan	Price cap	NTT's local basic services.	M	Notification is required for services, which are not subject to price-cap regulation.
Korea	Tariff approval	KT's local telephone services and SK Telecom's cellular services.	M	Notification is required for services, which are not subject to tariff approval regulation.
Luxembourg	-	-	R	
Mexico	Price ceiling on baskets	Providers of telecommunication public networks with significant market power.	R	
Netherlands	Price cap	PTO's with significant market power regarding tariffs for leased lines and public voice telephony services.	R	

Table 10. Regulations on pricing (*cont'd*)

Country	Type of regulation	Coverage of regulation	Regulatory body	Notes
New Zealand	The Kiwi Share Obligation requirements: Price of residential telephone service shall not increase at a rate faster than the rate of inflation. Residential lines must be priced on a uniform basis.	Telecom New Zealand residential telephone lines.	M (on behalf of the Minister of Finance)	
Norway	Cost-oriented pricing. Incumbent PTO is regulated by a price cap model.	Operators with significant market power.	R	
Poland	Price ceiling, Tariff approval.	Universal telecommunication services (Price ceiling), International telecommunication services (Tariff approval).	M	
Portugal	Price cap.	Portugal Telecom PSTN and leased line services.	M R C	Parliament can also establish specific regulation.
Sweden	Cost based pricing, Price cap.	Fixed network and for telecommunications network capacity (Cost based pricing), Line rentals (Price-cap).	R	
Spain	Maximum and minimum prices or criteria for setting price.	Basic PTO services.	R	
Switzerland	Price cap.	Essential telecommunication services provided by the holder of the universal service concession.	M	M: The Federal Council.
Turkey	Tariff approval.	Telecommunications services.	M	
United Kingdom	Price cap.	BT's residential services.	R	
United States[2]	Price cap.	Bell operating companies and GTE (ILECs other than Bell operating companies and GTE can choose between price caps and rate of return regulation).	R	All common carriers are required to file tariffs according to the regulatory guidelines established by FCC.

Notes :1 Countries where the Ministry holds both regulatory and policy functions.
2. Entries for the United States only reflect telecommunications regulation at the federal level.
M - Ministry, **R** - Independent telecommunications regulator, **C** - Competition authority.
Source: OECD.

Universal service

Except those countries -- the Czech Republic, Hungary, Finland, New Zealand and Ireland -- that have no universal service definition in the telecommunications laws, as long as a country has a universal service provision, it is required to determine the coverage of universal service as well as the funding mechanism. Since the determination of the coverage of universal service is a policy matter, which requires social consideration rather than economic analysis, the Ministry and the legislature determine the coverage of universal service. As a result, in most cases, the telecommunications law or the ministerial decree defines the coverage of universal service.

In general, if a country has a universal funding mechanism, the way to calculate and allocate the cost is also stipulated in the telecommunications law. In this regard, in contrast to the determination of the

coverage of universal service, the cost finding and allocation of universal service is understood as a regulatory function in the majority of countries.

There are different approaches to ensure universal service provision. In some countries, such as the United Kingdom, Norway, Spain, Iceland, Mexico and Sweden, the incumbent operator bears the responsibility for universal service provision. In other countries this responsibility is spread across the industry. Where telecommunications operators share responsibilities, in most cases, the independent regulator determines the cost of universal service as well as the cost allocation among telecommunications operators.

Table 11. Regulations on universal services

Country	Existence of universal service framework	Existence of funding mechanism	Cost Finding	Cost allocation	Notes
Australia	Yes	Yes	R	M	The costs of the USO are shared in proportion to carriers' shares of 'eligible revenue'. After obtaining the consent of participating carriers, the Minister may specify another cost-sharing mechanism.
Austria	Yes	Yes			
Belgium	Yes	Yes	R	R	
Canada	R	R	R	R	
Czech Republic	No	-	-	-	
Denmark	Yes	Yes	R	R	If it is proved that a deficit exists in the provision of universal service, the NTA will collect a contribution from fixed voice telephony service providers on the basis of the amount of turnover.
Finland	No	-	-	-	
France	Yes	Yes	M (R)	M (R)	ART proposes the assessment of the cost of the universal service and the level of operators' individual contributions to the Ministry.
Germany	Yes	Yes	R	R	While there is a legal provision for a universal service funding mechanism, it has not been applied yet.
Greece	Yes	Yes	M (R)	M (R)	Regulator implements Ministry's decision.
Hungary	No	-	-	-	No universal service regulation in the telecommunication law. However, the concession agreements for public fixed telephone services determine obligations for the service providers regarding services provided for anybody at prices fixed by Ministerial decree and set down certain network investment targets including requirements for payphones.
Iceland	Yes	No	-	-	Direct subsidy from government. Cross subsidy between services.
Ireland	No	-	-	-	
Italy	Yes	Yes	R	R	
Japan	Yes	No	-	-	According to the NTT law, NTT's voice telephony service is regulated as universal service.

Table 11. **Regulations on universal services (*cont'd*)**

Country	Existence of universal service framework	Existence of funding mechanism	Cost Finding	Cost allocation	Notes
Korea	Yes	Yes	M	M	
Luxembourg	Yes	Yes			
Mexico	Yes	No	-	-	Subsidy from access charges.
Netherlands	Yes	Yes	R	R	While there is a legal provision for a universal service funding mechanism, it has not been applied yet.
New Zealand	See note	-	-	-	The Kiwi Share Obligations are in effect a type of universal service requirement. Public disclosure of Kiwi Share costs are required from January 2000. Interconnection charges contribute to any such costs.
Norway	Yes	No	-	-	Incumbent bears USO based on its licence requirement.
Poland	Yes	No	-	-	Establishment of the universal service fund is predicted in the draft of new telecommunication law.
Portugal	Yes	Yes	R	R	The criteria for the division of the net costs of universal service between operators and providers that are obliged to contribute are defined and published by ICP.
Spain	Yes	Yes	R	R	Telefonica has been designated the dominant operator required to provide universal service until the end of 2005.
Sweden	Yes	No	-	-	Universal service being provided through a licence condition on dominant carrier.
Switzerland	Yes	Yes	-	-	Universal service licence granted on a periodic basis by tender. If a need for funding is noted, the granting authorities (ComCom/OFCOM) can impose a fee on companies with a licence.
Turkey	Yes	No	-	-	Cross subsidy between services.
United Kingdom	Yes	No	-	-	Universal service provision is an obligation on British Telecom and Kingston Telecom.
United States	Yes	Yes	R	R	Each telecommunications carrier that provides inter-state telecommunications services must contribute, on an equitable and non-discriminatory basis, to the provision of universal service.

Note: Countries where the Ministry holds both regulatory and policy functions.
M - Ministry, **R** - Independent telecommunications regulator.
Source: OECD.

Service quality

As competition develops in the telecommunications market, consumers can choose the operator from which they will buy telecommunications services. Along with price, service quality is one of the key factors for consumers to make such choices. In fact, changes in quality are tantamount to a real change in prices. However, unlike price, it is extremely difficult for consumers to compare service quality of different operators.

In order to help consumers to get information on service quality of telecommunications services, in many Member countries, the telecommunications regulator monitors quality of telecommunication services. Since the monitoring of service quality can best be done by the body that has the information on the marketplace, this role is usually granted to the independent regulator in the Member countries in which there is an independent regulator.

In the United States, the FCC publishes the percentage of installation commitments met for business and residential users, as well as the average installation interval. The same statistics are also published for access services provided from local exchange carriers to other carriers. In Canada, PTOs report separately measures such as the average time for a user to receive a connection to the network and fault repairs for urban and rural areas to the CRTC.

While the majority of regulators monitors service quality based on operators' reports, the telecommunication regulators in the United Kingdom and Korea make a survey on the quality of different telecommunication services. In the United Kingdom, the telecommunications companies and several consumer organisations, with support from OFTEL, have developed a set of comparable performance indicators for a range of fixed telecommunications services. In Korea, the Ministry surveys the quality of fixed and mobile services, and publishes the results of survey.

Convergence and regulatory institutions in the communications sector

In many OECD Member countries, the regulatory responsibilities are split across a number of different institutions in the broadcasting sector. Many Member countries have separate regulatory bodies for network regulation, spectrum allocation, content regulation, and advertising regulation. In addition, countries have a body that is responsible for audio-visual policy. Furthermore, the broadcasting sector has traditionally been regulated on a network/service specific regulatory basis where separate regulations have applied to services according to the means of transmission -- terrestrial, cable or satellite. As a result, in many OECD countries there are different laws and regulators for each broadcasting service. For example, it is quite common for local governments to have regulatory power on cable television because of the widely used franchising system.

Table 12. Regulations on service quality

Country	Monitoring service quality	Notes
Australia	R	
Austria	R	
Belgium	R C	
Canada	R	
Czech Republic	R	
Denmark	R	
Finland	R	
France	R	
Germany	R	
Greece	R	
Hungary	R	
Iceland	R	
Ireland	R	
Italy	R	
Japan	No monitoring	
Korea	M	
Luxembourg	R	
Mexico	R	
Netherlands	R	
New Zealand	M	Residential telephone service only. Monitored under a voluntary agreement.
Norway	R	
Poland	M	
Portugal	R	
Spain	M	
Sweden	R	The regulator has decided on certain quality levels in licences.
Switzerland	R	Only the quality of services offered by the holder of the universal service concession is subject to control by the regulator.
Turkey	No monitoring	
United Kingdom	R	
United States[2]	R	

Notes: 1. Countries where the Ministry holds both regulatory and policy functions.
2. Entries for the United States only reflect telecommunications regulation at the federal level.
M - Ministry, **R** - Independent telecommunications regulator, **C** - Competition authority.
Source: OECD, ITU *General Trends in Telecommunication Reform*.

On top of these regulatory complexities within the broadcasting sector, there is a clear regulatory distinction between telecommunications and broadcasting. As a result, except five OECD Member countries -- the United States, Canada, Japan, Switzerland and Italy, all OECD Member countries have different regulators for broadcasting and for telecommunications.

Convergence in communications calls into question the service-based vertical regulatory system. In particular, there is increasing demand from the industry to reorganise regulatory institutions in the light of convergence. In this regard, in a rule making proposal filed 11 August 1999, the US Telephone Association said:

> "Service-based FCC bureaux are no longer relevant in the converged marketplace. --- Convergence in the industry will dominate the market structure in the new millennium. Convergence has accelerated due to phenomenal increases in Internet, data and wireless traffic. The old regulatory labels are no longer a good fit for carriers that operate in a multinetwork, multiprovider, multiservice digital and broadband based world."

It is true that the majority of OECD countries are still in the process of establishing a new telecommunications framework. However, the rapid convergence taking place between broadcasting, content and communications technologies and services requires consideration of "next generation regulation" that can be characterised by the horizontal regulatory system covering all communications services.

The institutional issue is very important in that it may determine the extent to which convergence is effectively reflected in laws, policy initiatives and regulations. Fragmented regulation in the communication sector not only restricts companies from taking full advantage of technology innovation and business opportunities, but also prevents users from enjoying better possible services. In this regard, a review of current institutional structures and procedures can be a primary requirement for Member countries in order to assess whether existing structures are suitable to a converging communications environment. As a minimum, there is a need to ensure much closer co-operation between regulatory institutions for preventing regulatory distortion in the marketplace.

Table 13. Regulatory institutions in broadcasting and telecommunications

Country	Telecommunications	Broadcasting carriage regulation	Broadcasting spectrum allocation	Content regulation
Australia	ACA	Australian Broadcasting Authority (ABA)	ABA	ABA
Austria	TKC	Federal Ministry of Science and Transport, Regional Radio and Cable Broadcasting Authority	Federal Ministry of Science and Transport	Commission for the Observance of the Broadcasting Act, Regional Radio Act, Cable and Satellite Broadcasting Act.
Belgium	BIPT	Flemish Government Government of the French Community Government of the German Community	BIPT Flemish Government Government of the French Community Government of the German Community	Flemish Government Government of the French Community Government of the German Community
Canada	CRTC	CRTC	Industry Canada	CRTC
Czech Republic	CTO	CTO	CTO in co-operation with Council of the Czech Republic for Radio and Television Board	Council of the Czech Republic for Radio and Television Board
Denmark	NTA	Ministry of Culture Local Radio and Television Board NTA	NTA	Ministry of Culture, Local Radio and Television Board, Satellite and Cable Board
Finland	TAC	Ministry of Transport and Communications	TAC	Council of State, Ministry of Transport and Communications
France	ART	*Conseil Supérieur de l'Audiovisuel* (CSA)	CSA	CSA
Germany	Reg TP	*Direktorenkonferenz der Landesmedienanstalten* (DLM) Reg TP	Reg TP	DLM
Greece	EETT	Ministry of Press and Mass Media Ministry of Transport and Communications	Ministry of Transport and Communications	Ministry of Press and Mass Media
Hungary	Communications Authority	Communications Authority National Radio and Television Commission	Communications Authority National Radio and Television Commission	National Radio and Television Commission
Iceland	PTA			
Ireland	ODTR	ODTR	ODTR	Independent Radio and Television Commission
Italy	AGC	Ministry of Communications, AGC	Ministry of Communications AGC	Ministry of Communications AGC
Japan	MPT	MPT	MPT	MPT

Table 13. **Regulatory institutions in broadcasting and telecommunications (*cont'd)***

Country	Telecommunications	Broadcasting carriage regulation	Broadcasting spectrum allocation	Content regulation
Korea	MIC	MIC, Ministry of Culture and Tourism	MIC	Ministry of Culture and Tourism The Korean Broadcasting Commission
Luxembourg	ILT		ILT	
Mexico	COFETEL	*Secretaria de Educación Pública*	COFETEL	*Secretaria de gobernación* *Secretaria de Comunicaciones y transportes*
Netherlands	OPTA	Ministry of Transport, Public Works and Water Management OPTA	Ministry of Transport, Public Works and Water Management	Ministry of Education, Culture and Science Media Commission
New Zealand	Commerce Commission	Ministry of Commerce	Ministry of Commerce	Broadcasting Standards Authority
Norway	NPT	Royal Norwegian Ministry of Cultural Affairs, Mass Media Authority NPT	NPT	Royal Norwegian Ministry of Cultural Affairs Mass Media Authority
Poland	Ministry of Post and Telecom	The National Council on Radio and Television	Ministry of Post and Telecom	The National Council on Radio and Television
Portugal	ICP	Secretary of States for the Mass Media Institute for the Media Mass Media Authority ICP	ICP	Secretary of State for the Mass Media Institute for the Media, Mass Media Authority
Spain	CMT	Ministry for Development Secretariat-General for Communications	Secretariat-General for Communication	Secretariat-General for Communications Autonomous Communities
Sweden	NPTA	Ministry of Culture, The Radio and TV authority	NPTA	The Swedish Broadcasting Commission
Switzerland	ComCom, OFCOM	Federal Council Department of the Environment, Transport, Energy and Communications OFCOM	OFCOM	Federal Council Department of the Environment, Transport, Energy and Communications OFCOM
Turkey	PTT	General Directorate of Communications	General Directorate of Communications	Radio Television Upper Board
United Kingdom	OFTEL	Department of Culture, Media and Sport Independent Television Commission	Radio Authority	Independent Television Commission.
United States	FCC	FCC	FCC	FCC

Source: OECD.

NOTES

1. OECD, *Communications Outlook 1999*. As of January 1999, 22 Member countries had a state owned incumbent telecommunications operator. Only seven countries -- Canada, Denmark, Mexico, New Zealand, Spain, the United Kingdom and the United States -- have a fully privatised telecommunications market.

2. In Japan, the Ministry of Posts and Telecommunications is a telecom regulator but the Ministry of Finance is a shareholder of NTT. In Korea, the Ministry of Information and Communication is the telecommunication regulator but the Ministry of Finance and Economics is a shareholder of KT.

3. See *Communications Outlook 1999* table 2.6. "Treatment of Internet telephony" and table 6.19. "Regulatory treatment of web casting service in OECD countries".

4. OECD, Cross-Ownership and Convergence: Policy Issues, DSTI/ICCP/TISP(98)3/FINAL.

5. In his speech at the Georgetown University Law Centre on 1 October 1998, William E. Kennard, chairman of FCC, said "… The reality of convergence requires us to think broadly to reorganise ourselves along the functional lines that make more sense in a world in which consumers and service providers no longer see distinct markets organised along traditional boundaries."

6. In his speech to Henderson Crossthwaite on 24 June 1999, David Edmonds, director general of OFTEL, said "… we have a number of different regulators with responsibilities in different parts of the communications world. In an ideal world, their responsibilities would be brought together. But this would require legislation and legislation takes time. So instead I instigated arrangements whereby instead of arguing with each other in public, there are proper procedures to ensure we work together. This is increasingly important as convergence arrives and I'm glad to say I believe the arrangements are working well."

7. They were Australia, Belgium, Canada, Norway, Sweden, Switzerland, the United Kingdom and the United States.

8. When KCC makes decisions on disputes between telecom operators, the Minister cannot overturn these decisions. The Minister can request to reconsider these decisions but KCC makes those decisions final by two-thirds of votes.

9. Cofetel was created by the Presidential Decree published on 9 August 1996 on the Official Gazette. Cofetel's specific responsibilities are not defined by the law but by the Presidential Decree.

10. In the United Kingdom, OFTEL incorporates the "fair trading condition" into telecom operator licences.

11. "Competition on the line" -Personal View- Don Cruickshank - *Financial Times*, 19 February 1998, p.12.

12. If the supplier responsible for providing an interconnection and the person asking for it fail to reach agreement within three months, ComCom, at the suggestion of the office, lays down the conditions governing interconnection in accordance with the standard principles of the market and of the sector in

question. In order to judge whether a supplier enjoys a dominant position, OFCOM consults the Competition Commission.

13. The regulatory authority and the Federal Cartel Office must reach agreement when a provider is excluded from the licensing procedure and when the existence of market dissociation and a market dominating position is established.

14. The responsibility of Reg TP in merger control is restricted to a verification of compatibility with the licence condition. In the case of mobile operators being licensed before the enforcement of the Telecommunication Act, any changes of ownership need to be approved by Reg TP.

15. In the United States, access to the local exchange carriers for interstate long-distance service is regulated by the FCC and is referred to as access charges. These charges are tariffed and are not subject to negotiation. Charges for interconnection with local exchange carriers for local service are subject to negotiation and are called interconnection charges.

16. For example, the Interconnection Directive in the EC requires telecommunications operators with significant market power to provide non-discriminatory and cost-oriented interconnections to other parties.

17. Telstra's charges for directory assistance are subject to notification and disallowance. The Minister may, after receiving a report from the ACCC, disallow a charge on public interest grounds.