

**Unclassified**

**DSTI/ICCP/TISP(2005)6/FINAL**



Organisation de Coopération et de Développement Economiques  
Organisation for Economic Co-operation and Development

**11-Jan-2006**

**English - Or. English**

**DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INDUSTRY  
COMMITTEE FOR INFORMATION, COMPUTER AND COMMUNICATIONS POLICY**

**Working Party on Telecommunication and Information Services Policies**

**TELECOMMUNICATION REGULATORY INSTITUTIONAL STRUCTURES AND  
RESPONSIBILITIES**

**DSTI/ICCP/TISP(2005)6/FINAL  
Unclassified**

**English - Or. English**

**JT00196779**

Document complet disponible sur OLIS dans son format d'origine  
Complete document available on OLIS in its original format

## **FOREWORD**

This report was presented to the Working Party on Telecommunication and Information Services Policies in June 2005 and was declassified by the Committee for Information, Computer and Communications Policy in October 2005.

The report was prepared by Mr. Yoshikazu Okamoto of the OECD's Directorate for Science, Technology and Industry. It is published under the responsibility of the Secretary-General of the OECD.

## TABLE OF CONTENTS

MAIN POINTS.....	4
1. Introduction.....	5
2. Administrative structure of the regulator.....	7
2.1. Reporting.....	8
2.2. Financing.....	9
2.3. Appointment of the head of the regulatory body.....	11
2.3.1. Appointment.....	12
2.3.2. Term of office; Renewable terms.....	13
2.3.3. Dismissal of the head.....	13
2.3.4. Number of board members including the head.....	13
2.4. Jurisdiction.....	14
3. Relationship between the regulator and the general competition authority.....	16
4. Division of regulatory responsibilities in the telecommunications sector.....	17
4.1. Market entry.....	18
4.2. Interconnection.....	20
4.3. Spectrum management.....	22
4.4. Numbering.....	23
4.5. Price regulation.....	24
4.6. Universal service.....	28
4.7. Service quality.....	30
4.8. Regulatory bodies in broadcasting and telecommunications.....	31
5. Conclusions.....	34
REFERENCES.....	36
NOTES.....	37

## MAIN POINTS

This paper provides an overview of the structure and responsibilities of telecommunications regulatory bodies. It updates an earlier paper undertaken for the TISP Working Party entitled 'Telecommunications Regulations: Institutional Structures and Responsibilities' (DSTI/ICCP/TISP(99)15/FINAL). The main changes that have taken place compared to six years ago are as follows:

- The responsibilities of regulators have changed in many countries as functions, formerly with ministries, have been transferred to them.
- Several regulators have undergone restructuring through the merging between telecommunication and broadcasting regulators.
- There has been a shift to allow for joint responsibility in the telecommunication sector between competition authorities and the sector specific regulator. In certain cases formal mechanisms have been put into place for co-operation while in some countries there is informal co-operation.

Sector specific regulators have often been regarded as temporary institutions aimed at developing that effective competition in the sector. Once such competition has developed, regulators would in principle forbear from regulation and over time the sector would be subject only to oversight by the competition authority. There has been forbearance in a number of areas by regulators, but the development of new technologies has often led to new issues arising and these have often required regulatory intervention. In addition, regulators often deal with social issues, such as universal service, and the licensing of spectrum, so it is likely that there will still be a requirement for sector specific regulators for some time to come.

The shift by operators to the 'next generation network' may create further demands to have a single regulatory structure, but not many institutional changes have been taken in order to deal with convergence. The development of new network structures may well result in the need for a review of existing regulatory structures and their responsibilities, in addition to a change in the regulations themselves. In this regard, it is important that regulatory structures should be sufficiently flexible to deal with rapid changes in the communications sector as well as to continue to meet needs of users and the industry.

## TELECOMMUNICATION REGULATORY INSTITUTIONAL STRUCTURES AND RESPONSIBILITIES

### 1. Introduction

The purpose of this paper is to provide an overview of the structure and responsibilities of telecommunication regulatory bodies. It updates earlier work undertaken for the TISP Working Party in 1999 which was issued under the same title 'Telecommunications Regulations: Institutional Structures and Responsibilities' (DSTI/ICCP/TISP(99)15/FINAL).

Over the last five years much has changed in the context of telecommunication regulation. The jurisdiction of regulators has changed in many countries as responsibilities, formerly with ministries, were transferred to regulators. In certain cases significant functional changes in responsibilities have also required name changes in organisations to reflect these new responsibilities. In particular, the issue of convergence especially between telecommunications and broadcasting has been debated for several years in the communications policy and regulatory community. Concrete action to increase the flexibility of regulators to meet the requirements of convergence has led to institutional changes. Examples include the Austrian Regulatory Authority for Telecommunications and Broadcasting (RTR-GmbH) established in 2001, which is in charge of television, radio, telecommunications and wireless communications services, or the creation in 2003 of the Office of Communications (Ofcom) in the United Kingdom. Australia has merged the Australian Broadcasting Authority and the Australian Communications Authority to form the Australian Communications and Media Authority (ACMA) effective from 1 July 2005. Other entities have also been set up, such as the Telecommunications Business Dispute Settlement Commission in Japan, which was established in 2001, and only deals with dispute settlements. Table 1 lists the entities responsible for telecommunication regulation and telecommunication policy in OECD countries.

The earlier OECD work noted above differentiated between "independent regulator" defined as a sector specific independent regulator that is separate from the ministry as well as telecommunications operators, and a "telecommunications regulator" which could either be the independent regulator or the ministry where there is no independent regulator.<sup>1</sup> In 1999 there were four OECD countries (Japan, Korea, Poland and Turkey) where the ministry was still responsible for regulatory supervision as well as policy functions. Since then both Poland and Turkey have set up independent regulatory authorities. OECD countries have led the international trend toward organising regulatory authorities independent of telecommunications operators and separate from the relevant ministry.<sup>2</sup> This earlier work also stressed the importance of having a regulator independent of government ministries on the basis that: an independent regulator maintains a distance from the ministry or other government bodies that remain as the major shareholder of the incumbent and, an independent regulator can avoid conflict of interest that can occur if the regulator is also responsible for industry promotion.

In the WTO context the definition of the independent regulator is a regulator that is separate from, and not accountable to, any supplier of basic telecommunications services. This definition does not require the regulator to be independent of any government ministry, nor does it preclude the ministry from being the regulator. However, it could be argued that where the government retains ownership of an operator it still has links, even indirect, to a supplier.

**Table 1. Regulatory bodies in the telecommunications sector**

Country	Regulator	Policy maker
Australia	Australian Communications and Media Authority (ACMA); Australian Competition and Consumer Commission (ACCC)	Department of Communications, Information Technology and the Arts (DCITA)
Austria	Austrian Regulatory Authority for Telecommunications and Broadcasting (RTR-GmbH) <sup>1</sup>	Federal Ministry for Transport, Innovation and Technology (bmvit)
Belgium	Belgian Institute for Postal services and Telecommunications (BIPT)	FPS Economy, SMEs, Self-employed and Energy
Canada	Canadian Radio-television and Telecommunications Commission (CRTC)	Industry Canada
Czech Republic	Czech Telecommunication Office (CTO)	Ministry of Informatics
Denmark	National IT and Telecom Agency: as a part of Ministry of Science, Technology and Innovation	Ministry of Science, Technology and Innovation
Finland	Finnish Communications Regulatory Authority (FICORA)	Ministry of Transport and Communications
France	<i>Autorité de Régulation des Communications Électroniques et des Postes (ARCEP)</i>	<i>Ministry of the Economy, Finance and Industry (MINEFI)</i>
Germany	Regulatory Authority for Telecommunications and Posts (RegTP)	Ministry of Economics and Labor (BMWA)
Greece	National Telecommunications and Post Commission (EETT)	Ministry of Transportation and Communications
Hungary	Communications Authority of Hungary (HIF)	Ministry of Informatics and Communication
Iceland	Post and Telecom Administration (PTA)	Ministry of Communications
Ireland	Commission for Communications Regulation (ComReg)	Department of Communications, Marine and Natural Resources
Italy	<i>Autorità per le Garanzie nelle Comunicazioni (AGCOM)</i>	<i>Ministry of Communications</i>
Japan	Ministry of Internal Affairs and Communications (MIC) <sup>2</sup> ; Telecommunications Business Dispute Settlement Commission	MIC
Korea	Ministry of Information and Communication (MIC) <sup>3</sup> ; Korea Communications Commission (KCC)	MIC
Luxembourg	<i>Institut Luxembourgeois de Régulation (ILR)</i>	<i>Ministère d'État, Le Service des Médias et des Communications</i>
Mexico	<i>Comisión Federal de Telecomunicaciones (COFETEL)</i>	<i>Secretaría de Comunicaciones y Transportes (SCT)</i>

**Table 1. Regulatory bodies in the telecommunications sector  
(cont'd)**

Country	Regulator	Policy maker
Netherlands	Independent Postal and Telecommunications Authority (OPTA); Radio-communications Agency	Ministry of Economic Affairs
New Zealand	Commerce Commission (Telecommunications Commissioner) : competition authority	Ministry of Economic Development
Norway	Norwegian Post and Telecommunications Authority (NPT)	Ministry of Transport and Communications
Poland	Office of Telecommunications and Post Regulation (URTIP)	Ministry of Infrastructure
Portugal	<i>Autoridade Nacional de Comunicações (ANACOM)</i>	Ministry of Public Works, Transport and Communications (MOPTC)
Slovak Republic	Telecommunications Office of the Slovak Republic	Ministry of Transport, Posts and Telecommunications of the Slovak Republic (MDPT)
Spain	Telecommunications Market Commission (CMT); State Radio-communications Agency <sup>4</sup>	Ministry of Industry, Tourism and Trade (State Secretariat for Telecommunications and the Information Society) <sup>5</sup>
Sweden	National Post and Telecom Agency (PTS)	Ministry of Industry, Employment and Communications
Switzerland	Federal Office of Communications (OFCOM); Federal Communications Commission (ComCom)	Federal Department of Environment, Transport, Energy and Communications
Turkey	Telecommunications Authority	Ministry of Transport
United Kingdom	Office of Communications (Ofcom) <sup>6</sup>	Department of Trade and Industry (DTI)
United States <sup>7</sup>	Federal Communications Commission (FCC)	FCC; National Telecommunications and Information Administration (NITA) of the Department of Commerce

Notes: 1. As a convergence regulator, RTR-GmbH acts as the operative arm of the Austrian Communications Authority (KommAustria) as well as the Telekom Control Commission (TKK).

2. MIC's (Ministry of Internal Affairs and Communications) regulation may reflect reports from the Telecommunications Council and the Radio Regulatory Council composed of experts in law, economics and technologies.

3. MIC's (Ministry of Information and Communication) regulation may reflect deliberations of the Information and Communications Policy Deliberation Council composed of experts in law, economics and technologies.

4. The State Radio-communications Agency has not been created yet, but its creation has been announced in the legislation (the same as follows).

5. The State Secretariat for Telecommunications and the Information Society, which is within the Ministry of Industry, Tourism and Trade, acts as a co-ordinator between the CMT and the Ministry.

6. Office of Telecommunications (Ofel); Radiocommunications Agency (RA); Independent Television Commission (ITC); Radio Authority (Rau); and Broadcasting Standards Commission (BSC) were incorporated into Ofcom in 2003, which has responsibilities across television, radio, telecommunications and wireless communications services.

7. Entries for the United States only reflect telecommunications regulation at the Federal level.

## 2. Administrative structure of the regulator

The preferred means to regulate the telecommunications sector for most OECD countries has been through an independent regulator. A number of reasons have been put forward in support of independent regulators: a regulator is preferred in many countries in that in principle it offers a greater degree of continuity (Majone 1997: 153; Gilardi 2002), a regulator often provides stability in processes and allows for arbitration and, in a number of cases, has enforcement powers. Furthermore, a regulator is often free from shorter-term political pressure and the regulatory body can develop a high level of expertise necessary to make decisions on complex questions (Baldwin and Cave 1999: 70).<sup>3</sup> It has also been argued

that independent regulators usually have a dogmatic focus on market efficiency (Wilks with Bartle 2002: 170), which is facilitated by their legal and economic specialization.

In implementing the policy and regulatory framework, the regulator needs to ensure that decisions are fair and balanced while fulfilling the objectives set down for the regulator. Building trust among the market players as well as end users is also an important aim of the regulator. Nevertheless, it is difficult to measure and judge the extent to which regulators are independent at least from a legal and institutional perspective. Some of the criteria which can be examined include:

- To whom does the regulator report?
- How is the regulator financed?
- Who appoints the Head of the regulatory body? Is there a fixed-term appointment? What is the structure of the decision making body within the regulatory body?
- Are there any government entities that can overturn the decisions of the regulator other than the courts?

These criteria are examined below for the OECD countries.<sup>4</sup>

### 2.1. Reporting

**Table 2. Reporting obligations of the telecommunications sector**

Country	Regulator	Reports to
Australia	ACMA	Legislature and Ministry
Austria	RTR-GmbH	Legislature and Ministry
Belgium	BIPT	Legislature and Ministry
Canada	CRTC	Ministry (Legislature)
Czech Republic	CTO	Annual report to the Government and Parliament and publish it at the same time <sup>1</sup>
Denmark	National IT and Telecom Agency	Ministry
Finland	FICORA	Ministry
France	ARCEP	Annual report to the Government and Parliament
Germany	RegTP	Legislature every 2 years
Greece	EETT	Ministry (Legislature)
Hungary	HIF	Ministry (Legislature, published in a national daily newspaper)
Iceland	PTA	No reporting responsibility except publishing an annual report
Ireland	ComReg	Ministry
Italy	AGCOM	Legislature
Japan	MIC; Telecommunications Business Dispute Settlement Commission	(Telecommunications Business Dispute Settlement Commission reports to the Ministry)
Korea	MIC; KCC	(KCC does not have a reporting responsibility.)
Luxembourg	ILR	Ministry (and published)
Mexico	COFETEL	Ministry
Netherlands	OPTA; Radio-communications Agency	Annual report to the Ministry
New Zealand	Commerce Commission	Legislature and Ministry
Norway	NPT	Ministry every 4 months, in addition to an annual report
Poland	URTIP	Annual report to the Ministry
Portugal	ANACOM	Annual report to the Ministry and Parliament
Slovak Republic	Telecommunications Office of the Slovak Republic	Ministry



**Table 2. Reporting obligations of the telecommunications sector  
(cont'd)**

Country	Regulator	Reports to
Spain	CMT; State Radio-communications Agency	CMT: Annual report to the Ministry and Parliament; State Radio-communications Agency:
Sweden	PTS	Ministry
Switzerland	OFCOM; ComCom	OFCOM: Ministry; ComCom: Federal Council annually
Turkey	Telecommunications Authority	Annual report to the Council of Ministers and the Parliament
United Kingdom	Ofcom	Legislature
United States <sup>2</sup>	FCC	Legislature

Notes: 1. CTO does not report to the Ministry, but it has to issue an annual report that it provides to the Cabinet through the Minister. The Minister does not have to approve the report but is responsible to make it available to the Cabinet.

2. Entries for the United States only reflect telecommunications regulation at the federal level.

The most common form of accountability by telecommunication regulators is through reporting to the ministry. However, some countries, such as Australia, Belgium, Czech Republic, Greece, Hungary, Portugal, Spain and the United Kingdom, have started to report to legislative bodies. In Hungary, it is stipulated in the law that the content of the report has to be published in a national daily newspaper.

## 2.2. Financing

**Table 3. Budget of the regulator**

Country	Regulator	Budget
Australia	ACMA	Appropriation
Austria	RTR-GmbH	Appropriation and contributions from operators
Belgium	BIPT	Fees
Canada	CRTC	Fees
Czech Republic	CTO	Appropriation
Denmark	National IT and Telecom Agency	Appropriation
Finland	FICORA	Fees and appropriation
France	ARCEP	Appropriation
Germany	RegTP	Fees, appropriation and contributions from operators
Greece	EETT	Fees
Hungary	HIF	Fees
Iceland	PTA	Contributions from operators based on their turnover and fees
Ireland	ComReg	Fees and contributions from operators
Italy	AGCOM	Fees and appropriation
Japan	MIC; Telecommunications Business Dispute Settlement Commission	Appropriation
Korea	MIC; KCC	Appropriation
Luxembourg	ILR	Contributions
Mexico	COFETEL	Appropriation
Netherlands	OPTA; Radio-communications Agency	OPTA: Fees; Radio-communications Agency: Fees and appropriation
New Zealand	Commerce Commission	Appropriation and contributions
Norway	NPT	Fees
Poland	URTiP	Appropriation
Portugal	ANACOM	Fees
Slovak Republic	Telecommunications Office of the Slovak Republic	Appropriation

**Table 3. Budget of the Regulator  
(Cont'd)**

Country	Regulator	Budget
Spain	CMT; State Radio-communications Agency	CMT: Contributions from operators based on their turnover and fees; State Radio-communications Agency
Sweden	PTS	Contributions from operators based on their turnover, fees and appropriation
Switzerland	OFCOM; ComCom	OFCOM: Fees and appropriation; ComCom: Fees
Turkey	Telecommunications Authority	Contributions from operators based on their turnover and fees
United Kingdom	Ofcom	Fees, appropriation and contributions from operators based on their turnover
United States*	FCC	Fees and appropriation

Notes: \* Entries for the United States only reflect telecommunications regulation at the Federal level.

Two main ways to finance the regulator's budget are used. One is collecting funds from telecommunications operators through fees and direct contributions from licensed operators often based on their turnover. At present, 18 countries are using fees as a significant financial source for the regulator. The regulators generally obtain licence fees, spectrum fees and fees from the sale of numbers, although as countries move from using licensing for market entry to a 'general authorisation' regime, as in the EC, then the individual licence fees will disappear as a revenue source. Austria, Germany, Iceland, Ireland, Luxembourg, New Zealand, Spain, Sweden, Turkey and the United Kingdom received contributions from operators. In Ireland, Spain and Turkey both fees and telecommunications operators contributions are used as a budgetary source by regulators. The source of fees may vary among countries: spectrum auction receipts for example are often kept by Ministries of Finance, whereas spectrum license fees are often maintained by regulators. In some cases fees are charged for numbers which are above cost whereas in other countries the fees charged reflect the administrative cost of number allocation.

The other way of financing budgets is through appropriations from the central government budget. In some cases they are basically complementary to fees and direct contributions. For example, in the United States, while regulatory fees raised are equal to 99.64% of the regulator's budget for fiscal year 2005; the entirety of the fees is handed over to the US government treasury and the FCC must present to the US Congress justification for budget appropriation. Australia, Czech Republic, Denmark, France, Japan, Korea, Mexico, Poland and Slovak Republic are only financed through government appropriation.

If the budget of the regulatory body depends on an appropriation from the government's budget, it is possible for a government to use this discretionary power to control a regulator. Similarly, in some cases the level of fees that are paid for licences, numbers, etc. may be set by the government rather than the regulatory body.

### 2.3. Appointment of the head of the regulatory body

**Table 4. Appointment of the Head of the regulatory body**

Country	Appointed by	Term of office	Renewable terms (Parenthesis means renewed only once)	Number of appointed members including the Head
Australia	The Governor-General	Not exceeding 5 years, with a maximum amount allowable time served to be 10 years	Yes (once)	3-9
Austria	The Minister	5 years	Yes (once)	2 (2 heads)
Belgium	Council of Ministers	6 years	Yes	4
Canada	The Governor in Council	5 years	Yes	13 full-time including Head (maximum); 6 part-time (maximum)
Czech Republic	The Government upon proposal of the Minister	5 years	Yes	5
Denmark	The Minister	Indefinite	-	1
Finland	The President	Indefinite	-	1
France	The President (Members of the executive board are appointed by the President, the President of the National Assembly and the President of the Senate.)	6 years	No	7
Germany	The President	5 years	Yes	1
Greece	The Minister	5 years	Yes (once)	9
Hungary	The Prime Minister	5 years	Yes	6
Iceland	The Minister	5 years	No specific provisions	1
Ireland	The Minister	Indefinite	-	1-3
Italy	The President	7 years	No	9
Japan	The Minister (in case of Telecommunications Business Dispute Settlement Commission)	3 years	Yes	5
Korea	The President (in case of KCC)	3 years	Yes	9 (maximum)
Luxembourg	<i>Gouvernement en Conseil</i>	3 years	Yes	7
Mexico	The President	Indefinite	-	4
Netherlands	OPTA: The Crown;  Radio-communications Agency: The Minister	OPTA: 4 years;  Radio-communications Agency: Indefinite	OPTA: Yes;  Radio-communications Agency: No specific provisions	OPTA: 3;  Radio-communications Agency: 4
New Zealand	The Governor-General	5 years	Yes	4-6

**Table 4. Appointment of the Head of the regulatory body  
(cont'd)**

Country	Appointed by	Term of office	Renewable terms (Parenthesis means renewed only once)	Number of appointed members including the Head
Norway	King in Council	Indefinite	-	1
Poland	The President of the Council Ministers	5 years	No specific provisions	1
Portugal	The Council of Ministers following a proposal of the Government member responsible for communications	5 years	No	3-5
Slovak Republic	The National Council	6 years	Yes (once)	1
Spain	CMT: The Government with approval from the Parliament;  State Radio-communications Agency	CMT: 6 years;  State Radio-communications Agency	CMT: Yes (once);  State Radio-communications Agency	CMT: 9;  State Radio-communications Agency
Sweden	The Government	6 years	Yes	9
Switzerland	OFCOM: The Minister;  ComCom: The Federal Council	OFCOM: Indefinite;  ComCom: 4 years	OFCOM:  ComCom: Yes	OFCOM: 1;  ComCom: 5-7
Turkey	The Council of Ministers	5 years	Yes	5
United Kingdom	The Secretaries of State	Between 3 and 5 years	Yes	9
United States(*)	The President needs to be confirmed by the Senate	5 years	Yes	5

Notes: \* Entries for the United States only reflect telecommunications regulation at the Federal level.

### 2.3.1. Appointment

In most member countries, the Head of the regulator is appointed by the Minister or the President based on the recommendation of the Cabinet or the Minister. In some countries the Heads have been appointed by the Cabinet. In Greece a recommendation is made by the Parliament.

In Germany, the Advisory Council of the regulatory authority (RegTP), which consists of nine members of the *German Bundestag* (lower house) and nine from the *German Bundesrat* (upper house), makes proposals to the federal government on the appointment of the President of the RegTP. Then he or she will be appointed by the Federal President.

In Turkey, the President, the member representing wireless services and the member representing telecommunication services, who implement decision making in a regulatory body, are elected from among two candidates to be nominated to each post by the Ministry of Transport. The member representing the telecommunications sector is appointed from between one candidate to be nominated by each of the operators which manufacture telecommunication equipment and systems, provide telecommunication services or operate infrastructures in Turkey and which hold a minimum of 10% market share within the relevant telecommunication service market in Turkey. Each operator can only nominate one candidate regardless of its market share. The member representing the consumers shall be elected from among two candidates to be nominated by both the Ministry of Industry and Commerce and the Turkish Association of Chambers and Exchanges. The same procedure is also applied to the competition authority, banking regulatory board and energy board.<sup>5</sup>

### *2.3.2. Term of office; Renewable terms*

It has been argued that the longer the tenure of the Head, the greater his or her likely independence from elected politicians.<sup>6</sup> On the other hand, long term, it can be argued, opens up regulatory bodies to “capture” by the industry. The longest first term is seven years in Italy. On the other hand, in Ireland, when the regulatory body changed to a three person Commission (and changed its name to ComReg in December 2002), the chairmanship has been rotated on an annual basis with the setting of terms and conditions, including remuneration, of the chairperson by the Minister. Other countries have periods ranging from 3 years in Japan, Korea and Luxembourg to 6 years in Belgium, France, Slovak Republic, Spain and Sweden.

Allowing repeated renewals of the regulator could also be used implicitly by governments to place pressure on the regulator, whereas with non-renewable terms this would be less likely to happen. A number of countries have chosen to allow only a single renewable term for the Head of the regulatory body. These include: Australia, Austria, Greece, Slovak Republic, and Spain. France, Italy and Portugal only allow for one term.

### *2.3.3. Dismissal of the head*

Usually dismissals can only occur because of severe breaches of ethical and financial rules. Dismissals have been rare as have resignations, and when these occur they have usually been for personal or professional reasons. There is no evidence to indicate that dismissals have occurred because of disagreements between regulators and Ministers.

### *2.3.4. Number of board members including the head*

Regulatory bodies are headed either by a single person or by a collegiate body (*e.g.* a commission). Currently Denmark, Finland, Germany, Iceland, Norway, Poland, and Slovak Republic have a telecommunications regulator headed by a single person. In Ireland the Commission must consist of at least one member and not more than three members, who are to be appointed by the Minister. It is also stipulated that where there is more than one commissioner, the Minister shall appoint one of them to be the chairperson of the Commission. In several countries where there is a collegiate type structure arguments have been made about the optimal size of the body but there is no single best practice to determine this size. The size of the collegiate body may also depend on the responsibilities of the regulatory body, which is whether they have broadcasting or postal services in their mandate.

## 2.4. Jurisdiction

Table 5. Ability to overrule the regulator's decision

Country	Names of organisations that can overturn regulator's decision other than the courts	Notes
Australia	None	
Austria	None	There is no regular legal recourse against the decisions of Telekom-Control Commission. It is possible to file an appeal to the Constitutional High Court and the Administrative High Court, and the High Court can invalidate a decision, but cannot make a decision in substance in place of the Telekom-Control Commission. In this sense the Telekom-Control Commission is equivalent to a normal court of law.
Belgium	The Council of Ministers	Only some kinds of decisions listed by royal Decree can be overruled. To date this Royal Decree has not yet been issued.
Canada	The Governor-in-Council	Within one year after a decision by the Commission, the Governor-in-Council may, by petition, or by the Governor-in-Council's own motion, vary or rescind the decision or refer it back to the Commission for reconsideration of all or a portion of it.
Czech Republic	None	
Denmark	Telecommunications Complaint Board	The Minister appoints the members of the Telecommunications Complaint Board. The Board represents expertise in legal, financial and market-related fields as well as competition law and telecommunications technology. It is stipulated that the Minister may not issue orders to the National IT and Telecom Agency concerning the exercise of its official authority. The members are appointed for periods of four years.
Finland	None	
France	None	
Germany	None	
Greece	None	
Hungary	The Minister	The Minister receives reports from, and instructs, the chairman of the Board of the National Communications Authority in order to ensure implementation of the Government's decisions, and in case of inappropriate operation, calls upon him to eliminate the deficiencies.
Iceland	None	
Ireland	The Appeals Panel	
Italy	None	
Japan	None	In the case of the Telecommunications Business Dispute Settlement Commission
Korea	None	In the case of the KCC
Luxembourg	None	
Mexico	The Minister	
Netherlands	None	
New Zealand	None	

**Table 5. Ability to overrule the regulator's decision  
(cont'd)**

Country	Names of organisations that can overturn regulator's decision other than the courts	Notes
Norway	NPT Complaints and Advisory Board, the Norwegian Ministry of Transport and Communications, and the Ministry of Planning and Co-ordination; Ministry of Labour and Government Administration (competition related matters)	The NPT shall review complaints raised with the NPT Complaints and Advisory Board, the Norwegian Ministry of Transport and Communications and the Ministry of Planning and Co-ordination in accordance with the rules laid down for the complaints procedure.
Poland	None	
Portugal	None	
Slovak Republic	None	
Spain	CMT: None; State Radio-communications Agency	
Sweden	None	
Switzerland	None	
Turkey	None	
United Kingdom	None	
United States*	None	

Notes: \* Entries for the United States only reflect telecommunications regulation at the Federal level.

It is important to ensure the authority of the regulator's decision because independence will be hampered if other governmental institutions, above all the ministry in charge of telecommunications, can overturn decisions. The smaller the zone of discretion by the regulator, the greater the regulator's interest will be in monitoring and anticipating the government's reactions to the extent that they wish to avoid having decisions overturned (Thatcher and Stone Sweet 2002: 6). Even if Ministers sometimes have formal powers to overturn the decisions of the regulator, they rarely tend to exercise these powers (Thatcher 2002: 961-962). In Canada appeals may also be made to the government on the substance of decisions. Such appeals are rare.

In Belgium, the BIPT remains under supervision of the Council of Ministers which may suspend some of the decisions on the proposal of the competent Minister. These decisions have to be determined by a Royal decree which does not exist yet, but the Minister formally informed the Parliament of his opinion that an intervention can only be justified in cases concerning the provision of universal service or the use of broadband frequencies. The Minister also has the right to bring a legal appeal in front of the Brussels Appeals Court against any decisions by the BIPT that he or she feels are contrary to law.<sup>7</sup>

In Ireland, the Appeals Panel is set up only when an appeal against a ComReg decision is received, and the Minister will appoint an Appeals Panel comprising four members who remain in place for one year. The Appeals Panel is independent in the performance of its functions and determines its own procedures. It was just established in August 2004, and so it will take time to be institutionalised, but like Denmark and Norway, the existence of appeals boards where operators can file complaints against regulator's decisions is a relatively rare feature.

Lastly, in some countries the Minister may give directions to the regulator before it makes decisions (Australia, Ireland, Netherlands) or have an opportunity to communicate with it (Italy). This may limit the flexibility of the regulator. In Italy, a collaboration agreement between the ministry and the regulator has been concluded, and they periodically consult about common policy items.

### 3. Relationship between the regulator and the general competition authority

When the structures and responsibilities of regulatory institutions was first examined by OECD there had only been a burgeoning involvement by competition authorities in the telecommunications sector as the telecommunications market shifted from monopoly to competition. At that time either the regulator had full power to apply competition rules, or full power had been given to the competition authority to supervise competition issues in the telecommunication sector, or a co-ordinating mechanism had been set up between the regulator and the competition authority.

Since the late 1990s the tendency has been to allow for joint responsibility in the telecommunication sector between competition authorities and the sector specific regulator. In certain cases formal mechanisms exist for co-operation while in some countries there is informal co-operation. In the United Kingdom, the regulator – OFTEL – had parallel powers to apply competition rules, and the new institution Ofcom has maintained the same powers. In Greece, as an example, the regulator (EETT) found that the incumbent, in 2003, had violated both the national LLU legislation and competition law. For this reason, the EETT decided to impose administrative fines on the incumbent of EUR 150 000 (USD 194 565) for each of the two violations.

In a number of cases competition authorities and telecommunication regulators have entered into agreements either to clarify areas of competence, or procedures. In Canada, the Competition Bureau and the CRTC entered an 'Interface Agreement' in 1999 specifying those areas where each body has jurisdiction and areas where jurisdiction is shared. In Iceland, the PTA and the Competition and Fair Trade Authority jointly adopted guidelines on procedures concerning resolution of cases covered by the Acts on Postal and Electronic Communications Affairs and the Competition Act. These guidelines were made public. In the Netherlands, an agreement was reached between the Competition Authority and OPTA in a Co-operation Protocol.

In Austria, if RTR-GmbH (Telekom-Control Commission) has reason to assume in the course of its activities that a fact is subject to cartel law, it has to review this fact and, where appropriate, has to file a request to the Cartel Court in terms of 'performance of a merger in a forbidden manner'. In Denmark, complaints about fixed to mobile termination tariffs were dealt with jointly by the National IT and Telecom Agency and the competition authority in practice, although the jurisdiction of both institutions is clearly separated. In Italy, the AGCOM issues opinions to the competition authority. In Korea, the Minister of Information and Communication, in cases where he intends to grant an authorisation about a takeover of a business and merger of legal persons, has to consult with the Fair Trade Commission. In the Slovak Republic, when the Telecommunications Office of the Slovak Republic wishes to apply regulations, it is required to provide a rationale to the competition authority. Similarly the competition authority has to provide the Telecommunications Office with a justification before taking action in the sector. In Turkey, the Telecommunications Authority's responsibility includes providing opinions on all decisions of the Competition Authority in telecommunications before they are made public including those on mergers and acquisitions. Conversely, the Telecommunications Authority may request the Competition Authority for its opinions in order to ensure that the standard reference tariffs or the agreements for interconnection of networks and roaming do not impede free competition.

The new EU Framework Directives, which have placed emphasis on market analysis before implementing *ex-ante* regulations, state that 'member states shall ensure that this analysis (market analysis) is carried out, where appropriate, in collaboration with the national competition authorities'.<sup>8</sup> The procedures in undertaking market analysis are expected to strengthen co-operation between competition authorities and regulators. For example, a joint committee was set up in 2002 in Italy, comprising officials from the two authorities. The committee has two tasks: to strengthen the partnership between the two authorities in a number of fields; and to promote a technical forum for addressing scientific and



methodological issues, related to the development of market and competition analyses under the new European regulatory framework on electronic communications including exchanging of information in connection with the issuing of an opinion by one authority.

In the United States, government agencies minimise the potential conflicts inherent in overlapping enforcement jurisdiction over competition matters. The FCC has concurrent authority with the Department of Justice (DOJ) to enforce Section 7 of the Clayton Act with respect to telecommunications common carriers that it regulates. In addition, the FCC does not need to rely on its concurrent Clayton Act Section 7 jurisdiction to review mergers, but can also rely on its more general 'public interest' authority to review transfers of licenses or authorisations subject to FCC regulation. The FCC and the antitrust agencies are usually able to avoid inconsistent decisions on telecommunications mergers because the agencies informally share views in advance of a decision by either (though the antitrust agencies are limited in their ability to share confidential information they receive in an investigation, unless the parties providing the information waive confidentiality, as is frequently done to facilitate concurrent DOJ and FCC review). These discussions have been facilitated by special exemptions from FCC rules requiring public disclosure of *ex-parte* communications, thus permitting discussions between the FCC and the antitrust agencies on mergers being reviewed by both.

The relationship between the FCC and the antitrust agencies has operated without any formal designation of 'lead' agencies or development of common guidelines on competition issues, although the FCC in its decisions often refers to the merger guidelines jointly developed by the DOJ and the Federal Trade Commission for accepted principles on such issues as market definition and measurement of concentration. In addition, the antitrust agencies must go to federal court to bring an enforcement action to block a merger, and decisions by the FCC on merger applications are reviewable in the federal courts of appeal and, ultimately, the US Supreme Court, providing a safeguard against development of inconsistent antitrust precedent.

#### **4. Division of regulatory responsibilities in the telecommunications sector**

In general, 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 regulator. However, as individual institutions of member countries vary, there is a wide difference in where the line is drawn between jurisdictions. The fact that policy and regulation are highly interrelated often makes it difficult to draw a clear line between regulations and policy.

The allocation of regulatory responsibilities among regulatory institutions in the telecommunications sector is examined below. These include market entry, interconnection, spectrum management, numbering, price regulation, universal service and service quality.

## 4.1. Market entry

Table 6. Division of regulatory responsibilities for market entry

Country	Issuing license / Responsible for authorisation		Oversight of license requirements / authorisation	Approval of merger	Notes
	Fixed	Mobile			
Australia	R	R	C, R	C	
Austria	R	R	R	C, R	
Belgium	R	R	R	C	
Canada	R	M	R(fixed), M(mobile)	C, R	
Czech Republic	R	R	R	C, R	
Denmark	No license required nor registration	R	R	C	
Finland	R	M	R	C, R	
France	R	R	R	C	
Germany	R	R	R	C, R	
Greece	R	R	R	C, R	
Hungary	R	R	R	C, R	
Iceland	R	R	R	C, R	
Ireland	R	R	R	C	
Italy	M	M	M	C, R	
Japan	M	M	M	C, M	
Korea	M	M	M	C, M	
Luxembourg	M	M	R	-	There is no law which regulates mergers and acquisitions.
Mexico	M	M	R	C	Before any license is issued, the regulator should issue an opinion to the application.
Netherlands	R (OPTA)	R (Radio-communications Agency)	R	C, R	
New Zealand	Not required	M	M	C	
Norway	R	R	R	C	The Norwegian Competition Authority has to, when required, assist other authorities in monitoring adherence to other rules where infringements may have harmful effects on market and competition conditions.
Poland	R	R	R	C	
Portugal	R	R	R	C, R	
Slovak Republic	R	R	R	C, R	

**Table 6. Division of regulatory responsibilities for market entry  
(cont'd)**

Country	Issuing license / Responsible for authorisation		Oversight of license requirements / authorisation	Approval of merger	Notes
Spain	R	M	R	C, R	
Sweden	R	R	R	C	
Switzerland	R (OFCOM; services without a tender procedure)	R (ComCom)	R	C	The licensing authority is basically ComCom, but it may delegate its responsibility for certain tasks to OFCOM.
Turkey	R	R	R	C, R	
United Kingdom	R	R	R	C, R	
United States*	R	R	R	C, R	

Notes: \* Entries for the United States only reflect telecommunications regulation at the Federal level.

M – Ministry, R – Regulator, C – Competition Authority.

Procedures for market entry for fixed telecommunications services have changed, in some cases quite significantly, over the last five years. Whereas many countries followed a licensing procedure for market entry, changes in European Directives encourages the use of the least onerous market entry procedure, in particular using authorisation. Since authorisation did not require pre-approval for market entry, responsibility for market entry has tended to shift from ministries to regulators. Now, in almost all OECD countries the regulator has the responsibility to manage market entry. In Italy, Japan, Korea, Luxembourg and Mexico the ministry is in charge of market entry for fixed operators.

For mobile communications service ministries were mainly involved in managing market entry, but to a large extent this process has been delegated to the regulator. It is usually ministries that decide on whether there will be a limitation on the number of licenses. For example, in France, the Minister responsible for Telecommunications no longer issues licences. In turn, operators are obliged to notify the ARCEP which issues an acknowledgement allowing them to enforce their rights (interconnection, rights of way, etc.) and familiarise themselves with their obligations (taxes, contribution to funding universal service, etc.). However, operators need individual authorisation to obtain and use spectrum. In the Netherlands, the Radio Communications Agency, which is an executive agency dealing exclusively with radio frequency spectrum, was established in 2002, and it obtained the authority from the Ministry for licensing. In Canada, Finland and Spain the Ministry is responsible for issuing a mobile license, while the regulator is responsible for issuing a fixed license or registering fixed telecommunication operators.

In the context of mergers where the ownership of an operating licence may change, the change in the legal status of the licence is dealt with by the competent authority (ministry or regulator), however the actual merger review if necessary, would come under the responsibility of the competition authority.

## 4.2. Interconnection

Table 7. Regulations interconnection

Country	Authorisation of interconnection charges of operators with 'significant market power'	Regulating local loop unbundling	Dispute resolution	Notes
Australia	C	C	C	
Austria	R	R	R	
Belgium	R	R	C	
Canada	R	R	R	
Czech Republic	R	R	R, C	
Denmark	R	R	R	
Finland	R	R	R	
France	R	R	R	
Germany	R	R	R	
Greece	R	R	R	
Hungary	R	R	R	
Iceland	R	R	R	
Ireland	R	R	R	
Italy	R	R	R	
Japan	M	M	R (Telecommunications Business Dispute Settlement Commission)	According to the revision of Telecommunications Business Law which went into effect in April 2004, <i>ex-ante</i> regulations with regard to interconnection such as prior notification of interconnection agreement for non-dominant carriers were abolished.
Korea	M, R(KCC)	M	R(KCC)	KCC has had the authority, since April 2004, to issue corrective orders for unfair practices and impose fines on a telecom operator for unfair practices.
Luxembourg	R	R	R	
Mexico	R	- (*)	R	
Netherlands	R	R	R	
New Zealand	R	- (*)	R	
Norway	No authorisation	M	R	
Poland	R	R	R	
Portugal	R	R	R	
Slovak Republic	R	R	R	
Spain	R	R	R	
Sweden	R	R	R	

**Table 7. Regulations of interconnection  
(cont'd)**

Country	Authorisation of interconnection charges of operators with 'significant market power'	Regulating local loop unbundling	Dispute resolution	Notes
Switzerland	No authorisation	*	R (ComCom)	A provider wishing to conclude an interconnection agreement may notify OFCOM of the opening of negotiations. If the provider is not able to find an agreement after three months, OFCOM starts an examination. Within the framework of this examination, OFCOM shall institute conciliation proceedings. If the conciliation proceedings are unsuccessful, OFCOM shall request ComCom to take a decision on the interconnection conditions and prices. Fixing interconnection conditions and prices for ComCom, OFCOM shall consult the Competition Commission may publish its opinion.
Turkey	R	*	R	
United Kingdom	R	R	R	
United States	R, State Public Utilities Commission	R	R, State Public Utilities Commission	Any interconnection agreement adopted by negotiation or arbitration shall be submitted for approval to the State commission. If a State commission fails to act to carry out its responsibility in the proceedings such as arbitration, then the Commission shall assume it.

Notes: \* Mexico, New Zealand and Switzerland have not yet implemented unbundling. In Turkey, regulations on local loop unbundling will be implemented by 1 July 2005.

M – Ministry, R – Regulator, C – Competition Authority.

Interconnection agreements between operators without market power are generally negotiated freely, but if disputes occur, the telecommunications authority will intervene. The interconnection charges of operators with significant market power are subject to the authorisation of the telecommunications regulator. Similarly, the regulation of local loop unbundling comes within the mandate of the regulator. In Korea, the ministry approves interconnection charges *per se* and the KCC approves agreements on interconnection. In Norway the ministry decides on cost orientation of bit stream access to the local loop, on the conditions that it is offered to other providers, on equivalent and non-discriminatory terms and the quality at which it is offered.

Dispute resolution is usually the responsibility of regulators. However, in Belgium, the competition authority (Competition Council) has been responsible for dispute resolution since 2003. In Japan, the Telecommunications Business Dispute Settlement Commission has the mandate to adjudicate in disputes between operators. In the United Kingdom a Telecommunications Adjudicator has been appointed to deal with disputes related to LLU.

## 4.3. Spectrum management

Table 8. Spectrum management responsibilities

Country	Spectrum planning	Spectrum allocation	Notes
Australia	R	R	
Austria	M	M	In case of scarcity of frequencies, the regulator auctions the spectrum.
Belgium	R	R	
Canada	M	M	Industry Canada employs a systematic review process including a public consultation mechanism in order to make decisions on spectrum matters.
Czech Republic	R	R	
Denmark	M, R	R	
Finland	R	R	
France	<i>Agence Nationale des Fréquences</i>	R (ARCEP)	<i>Agence Nationale des Fréquences</i> is a government-owned corporation with an administrative nature. Its council is composed of representatives from the ARCEP, the broadcasting authority (CSA) and other relevant administrative organisations.
Germany	R	Federal Government, R	Consultation by the RegTP with the Advisory Council in the RegTP is required during the preparatory process for the frequency usage plan.
Greece	R	R	
Hungary	M	R	
Iceland	R	R	
Ireland	R	R	
Italy	R	M	
Japan	M	M	
Korea	M	M	
Luxembourg	R	R	
Mexico	M, R	R	
Netherlands	R (Radio communications agency)	R (Radio communications agency)	
New Zealand	M	M	
Norway	R	R	
Poland	M	R	
Portugal	R	R	
Slovak Republic	M, R	R	
Spain	M	R (State Radio-communications Agency)	
Sweden	R	R	
Switzerland	R(ComCom)	R(OFCOM)	
Turkey	R	R	
United Kingdom	R	R	Ofcom has assumed the responsibility for spectrum management which was previously under the Radio-communications Agency.
United States	M, R	M, R	The NTIA allocates Federal government spectrum and the FCC allocates all other spectrum for commercial usage.

Notes: M – Ministry, R – Regulator.

Spectrum as a resource is used by both the telecommunication and broadcasting sectors and has users outside the communications sector. This has meant that, traditionally, a ministry or specific agency was responsible for spectrum planning.

There has, however, been a shift compared to five years ago to move the responsibility of spectrum management to the telecommunications regulator. In some cases the regulator is required to consult with the ministry or to act within parameters set by the ministry. For example, in Denmark, the Minister will lay down a spectrum policy framework mandate and the National IT and Telecom Agency will develop a frequency plan within the framework developed by the Ministry. In the Slovak Republic, the regulator has to co-operate with the ministry in the elaboration of the draft of the national table of frequency allocations.

#### 4.4. Numbering

**Table 9. Regulatory responsibilities in numbering**

Country	Numbering plan	Numbering allocation	Notes
Australia	R	R	
Austria	M	R	
Belgium	R	R	
Canada	R	R	
Czech Republic	R	R	
Denmark	R	R	
Finland	R	R	
France	R	R	
Germany	R	R	
Greece	R	R	
Hungary	M	R	
Iceland	R	R	
Ireland	R	R	
Italy	R	R	
Japan	M	M	
Korea	M	M	
Luxembourg	R	R	
Mexico	R	R	
Netherlands	M	R	
New Zealand	Operators	Operators	The numbering plan and allocations are administered under the Number Administration Deed by an industry body comprised of telecommunications operators. Only parties to the Deed will be eligible for number allocations.
Norway	R	R	
Poland	M	R	
Portugal	R	R	
Slovak Republic	R	R	
Spain	M	R	
Sweden	R	R	
Switzerland	R (ComCom)	R (OFCOM)	
Turkey	R	R	
United Kingdom	R	R	
United States	R	R	

Notes: M – Ministry, R – Regulator.

Telecommunication numbering is another area where regulators have taken on more responsibility over the last five years in particular as regards the numbering plan, which has been often been viewed as being in the domain of policy. Number allocation is important to ensure equal access to new entrants as competition develops. In Korea when the Minister of Information and Communication intends to formulate or change the management plan for telecommunications numbers, the KCC has to provide its opinion beforehand.

In many cases decisions on numbering policy are closely co-ordinated with the private sector. For example, in Australia, the ACMA works closely with the Numbering Advisory Committee (NAC), which consists of representatives from the telecommunications industry and user groups to formulate and administer numbering policy. In Ireland, the Numbering Advisory Panel, which is a body composed of industry and consumer membership, was formed to provide expert guidance to the Director of the ComReg and the numbering team on critical or contentious issues. In the United States, the FCC works closely with the North American Numbering Council (NANC), which is the FCC's federal advisory committee on numbering issues and is comprised of telecommunications carriers, state regulators and consumer advocates.

Since mid 2004, Australia has used a Web-based auction system to allocate free phone and local rate numbers (smart numbers) such as those that have distinctive, easy to remember patterns because they spell phonewords (*e.g.* 13 TICKET). This provides a more efficient and transparent means of allocating these valuable numbers than the administrative allocation process, which operates on a 'first come, first served' basis. Under the auction arrangements, numbers will be allocated to those who value them most.

#### 4.5. Price regulation

**Table 10. Regulating pricing**

Country	Type of regulation	Coverage of regulation	Regulatory body	Notes
Australia	Price cap	Incumbent PTO (Telstra) retail prices only.	C	Following advice from the DCITA, the Minister has directed the ACCC to conduct a public inquiry into the nature of price control arrangements that should apply after the expiration on 30 June 2005 of the Telstra Carrier Charges - Price control arrangements.
Austria	Tariff approval	Voice telephony services via a fixed network and leased lines which incumbent PTO supplies.	R	
Belgium	Price cap	Basic voice telephony services of incumbent PTO under the USO.	R	
Canada	Price cap or prior approval	Incumbent PTOs only.	R	
Czech Republic	Price cap	USO services by incumbent PTO.	R	
Denmark	Price cap	USO services by incumbent PTO.	R	By 2005 only subscription fees and call set-up charges for the universal service provider are regulated. (Fixed at the 2003-level).
Finland	Freely set by operators	-	C	Retail prices are not regulated.
France	Tariff control	USO services; Where the access and interconnection obligations imposed on the underlying wholesale markets which are not sufficient to remedy competitive problems identified in the retail markets.	R	



**Table 10. Regulating Pricing  
(cont'd)**

Country	Type of regulation	Coverage of regulation	Regulatory body	Notes
Germany	Price cap; tariff approval	Baskets of combined services in a price cap include rates for access services. (They do not include rates for end user services).	R	
Greece	Tariff approval	Incumbent PTO's services.	R	
Hungary	Price cap	Retail PSTN services	R	
Iceland	Price cap	USO services by an incumbent PTO.	R	
Ireland	Price cap	Baskets of combined services in a price cap include rates for PSTN and ISDN retail; local; national; fixed to mobile; operator assisted; and directory enquiry calls services.	R	
Italy	Price cap	Baskets of combined services in a price cap include rates for access services, telephony services and fixed to mobile calls.	R	
Japan	Notification; price cap	USO services, designated telecommunications services (services through essential facilities) and specified telecommunications services (designated telecommunications services having a significant influence on the user's benefit).	M	Notification is expected for universal telecommunications services and designated telecommunications services; and a price cap is imposed on specified telecommunications services.
Korea	Tariff approval	KT's fixed-line service and SKT's mobile service.	M	
Luxembourg	Freely set by operators	-	R	Dominant operators have to demonstrate that prices are based on costs.
Mexico	Price cap; tariff approval	Price cap: Basket; Tariff approval: Only to services included in the Basket of the Incumbent PTO.	R	Basket for a price cap includes charges for installation, monthly rental, measured (metered) local service and long distance services.
Netherlands	Price squeeze; tariff approval	Incumbent PTO's services with significant market power regarding end-user tariffs for fixed telephony and for leased lines.	R	

**Table 10. Regulating Pricing  
(cont'd)**

Country	Type of regulation	Coverage of regulation	Regulatory body	Notes
New Zealand	Kiwi Share Obligations requirement	Telecom New Zealand local residential telephone service.	R	Kiwi Share Obligations requirement: The charge for local residential telephone service should be no more than the standard residential rental etc.
Norway	Tariff approval	Operators with significant market power in regard to offers of access to public telecommunications network, offers of public telephony services or transmission capacity.	R	Operators with significant market power have to demonstrate that prices are based on costs.
Poland	Tariff approval	USO and leased lines of operators with significant market power.	R	
Portugal	Tariff approval	USO, retail and wholesale services with significant market power.	R	Operators with significant market power have to demonstrate that prices are based on costs.
Slovak Republic	Price cap	Fix telephone public services of an incumbent PTO.	R	Notification is required for services which are not subject to price cap regulation.
Spain	Price cap	Fixed telephone service and leased lines of operators with significant market power.	R	The existing requirement for <i>ex-ante</i> approval of specific retail tariffs was transformed into a requirement only to notify the regulator of tariffs.
Sweden	Tariff approval	Incumbent PTO: fixed telephony services, minimum set of leased lines, LLUB and bitstream access, fixed subscriptions and interconnection (fixed and mobile); Other operators: fixed interconnection and mobile interconnection (market based tariffs).	R	Incumbent PTO and three major mobile operators have to prove that prices are based on cost, using long-run incremental cost. Other operators with significant market power have to apply prices that are fair and reasonable in relation to the relevant costs.
Switzerland	Price cap	Essential USO services provided by the holder of the universal service license.	M (Federal Council)	
Turkey	Tariff approval; price cap	Approval on the basis of cost-orientation: national leased line services of incumbent PTO; price cap: other services of incumbent PTO.	R	

**Table 10. Regulating Pricing  
(cont'd)**

Country	Type of regulation	Coverage of regulation	Regulatory body	Notes
United Kingdom	Price cap	BT's residential services.	R	Retail price control focuses on the expenditure patterns of residential customers other than the top 20% of spenders.
United States*	Price cap or rate of return regulation	Retail and wholesale interstate services provided by incumbent local exchange carriers; some limited categories of service such as dial around 1+ services provided by both domestic and international carriers.	R	Previously, all common carriers were required to tariff their interstate common carrier services with the FCC, but in 2001 and 2002 the FCC decided to forbear from the tariffing requirements for non-dominant carriers. Non-dominant interstate, interexchange [long distance] and international carriers are subject to mandatory detariffing. At this time, no carriers are considered dominant in the domestic interstate, interexchange market. In the international market, only Intelsat USA License Corp. is classified as dominant. Dominant local exchange carriers are required to tariff their interstate access services with the FCC. Non-dominant local exchange carriers are permitted, but not required, to tariff interstate access services with the FCC, subject to certain limitations.

Notes: \* Entries for the United States only reflect telecommunications regulation at the Federal level.

M – Ministry, R – Regulator, C – Competition Authority.

In some countries there are limitations placed on the regulator. For example, in Finland FICORA, the sector specific regulator, has limited powers under the Communications Market Act in that it cannot apply price regulation on retail prices, but can only determine whether prices are unreasonable. However, wholesale price regulation is applied on operators with significant market power in access and interconnection.

Since 1999 responsibilities for price regulation have been transferred from the ministry to the regulator in a number of countries: these include Belgium, the Czech Republic, France, Hungary, New Zealand, Poland, Portugal<sup>9</sup> and Turkey.

## 4.6. Universal service

Table 11. Regulations of universal service

Country	Existence of universal service framework	Existence of funding mechanism	Estimate of cost of universal service	Cost allocation	Notes
Australia	Yes	Yes	R (ACMA)	M	All licensed telecommunications carriers contribute to the funding of the USO by way of the Universal Service Levy. Carriers contribute in proportion to their relative market share. The Minister for Communications, Information Technology and the Arts is required to seek the advice of the regulator (ACMA) before setting universal service subsidies. Universal service subsidies must be set before the end of the claim period (financial year) and can be set up to three years in advance. From 1 July 2005, the ACMA will be responsible for facilitating timely payment of levy amounts received from carriers to USO providers.
Austria	Yes	Yes	R	R	A fixed incumbent had been designated as the USO provider at the end of 2004. There is a proposal to transfer USO responsibility to alternate operators.
Belgium	Yes	Yes	R	R	The fund has not been activated yet.
Canada	Yes	Yes	R	R	
Czech Republic	Yes	Yes	R	R	
Denmark	Yes	Yes	R	R	In the case where the incumbent PTO provides documentation which proves that providing USO services involves a deficit on an overall basis, the funding mechanism will function. But the incumbent has not as yet had such a situation. It is designated as a USO provider until 2007.
Finland	Yes	No	-	-	
France	Yes	Yes	R	R	
Germany	Yes	Yes	R	R	There is the legal Universal Service levy, <i>i.e.</i> where compensation is granted, each undertaking has to contribute to such compensation by means of a retroactive US levy (no <i>ex-ante</i> financed US fund). The cost of Universal Service has not been calculated, since no Universal Service compensation has been granted.
Greece	Yes	No	-	-	
Hungary	Yes	Yes	M	M	
Iceland	Yes	Yes	R	R	No USO funding mechanism has been implemented.
Ireland	Yes	No	-	-	
Italy	Yes	Yes	R	R	
Japan	Yes	Yes	M	M	The cost has not been calculated because at present there is no net cost of providing existing universal services.
Korea	Yes	Yes	M	M	
Luxembourg	Yes	No	-	-	
Mexico	Yes	Yes	-	-	There is now a Telecom Social Coverage Fund which will finance infrastructure-building through a bidding process. The detail usage is not specified but it is clear that the fund is for the user to pay (on a pre-paid scheme). Funding only comes from the government at the moment.
Netherlands	Yes	No	-	-	

**Table 11. Regulations of universal service  
(cont'd)**

Country	Existence of universal service framework	Existence of funding mechanism	Estimate of cost of universal service	Cost allocation	Notes
New Zealand	Yes	Yes	R	R	USO (referred to as Telecommunications Service Obligations) is for local residential telephone service and does not require universal service coverage (i.e. all geographic areas and all customer types).
Norway	Yes	No	-	-	
Poland	Yes	Yes	R	R	
Portugal	Yes	Yes	R	M	The incumbent is currently the universal service provider and has been granted a concession for 30 years until 2025.
Slovak Republic	Yes	Yes	R	R	
Spain	Yes	Yes	R	R	The incumbent has been designated a universal service provider until 2005. Implementation of a fund is subject to the statement where the net cost of the universal service is stated to be an unjustified charge for the prevailing operator. However that statement has not been implemented so far.
Sweden	Yes	No	-	-	There is currently no designated universal service provider as a result of the expiry of the legal provisions that had designated the fixed incumbent.
Switzerland	Yes	Yes	R(ComCom)*	R (ComCom)*	Universal service license is granted on a periodic basis by tender. If it will be impossible for the investment required for the universal service in a given area to be written off within the usual period, the applicant who submits the best bid shall receive the contribution. He must present his budget, accounts and financial plan to the OFCOM each year. Currently the incumbent has a concession of universal service to the end of 2007.
Turkey	Yes	No	-	-	
United Kingdom	Yes	No	R	-	The incumbent is the designated USO provider.
United States	Yes	Yes	R	R	Every telecommunications carrier that provides interstate telecommunications services must contribute, on an equitable and non-discriminatory basis, to universal service.

Notes: M – Ministry, R – Regulator.

\* The holder of the universal service license calculates and allocates the costs, and ComCom takes responsibility for the final decision if it agrees with the estimation.

In the early period of liberalisation, when a similar report to this was prepared, a number of countries had not yet put in place a framework for universal services. All OECD countries have now implemented such a framework. The reasons for examining the universal service frameworks are because, as reflected in the WTO reference paper, regulators in the process of becoming independent institutions from telecommunications operators needed to separate public interest objectives, which are the goals of the regulator, from the commercial, for-profit objectives. In addition, as the effects of competition deepen, universal service frameworks can be emblematic of the priority given by regulators to consumer welfare. Along with parallel efforts, such as taking into account consumer views, responding to complaints and, when necessary, providing clarifying information, universal service frameworks signify that the regulator has completed the transition from operators' representative to consumer advocate.

There are still some countries which have not implemented a universal service funding mechanism. Some countries regard such a mechanism as unnecessary in that the incumbent has been given the responsibility of providing universal service and cost calculations have determined that the net cost of supporting universal service is low. Other countries are still in a transitional period and are now trying to establish laws to set up a universal service fund and the net cost of providing universal service. Portuguese law mentions two financing mechanisms which are to be defined by the Government: *i)* the Government's own funds and/or *ii)* contributions from the other operators that offer PSTN in the national territory. The latter will be administered by the regulator.

The determination of the coverage of universal service is a policy matter, but the calculation and allocation of the cost is usually within the jurisdiction of the regulator. Many countries have recently given this responsibility to the regulator. In parallel, some regulators such as Poland or Switzerland have adopted a competition to designate the entity to provide universal service. If there are no offers or services comprising universal services, the regulator will appoint a provider of publicly available telecommunications services with the most significant retail market power in the area. Some countries require the whole industry to make contributions to cover the financing of universal services.

#### 4.7. Service quality

**Table 12. Regulations of service quality**

Country	Monitoring service quality	Notes
Australia	R	
Austria	R	
Belgium	R	
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	The Minister of Information and Communication may order the telecommunications business operators to furnish data necessary for an evaluation of quality of the telecommunications services.
Luxembourg	R	
Mexico	R	
Netherlands	R	
New Zealand	M, R	
Norway	R	
Poland	R	
Portugal	R	
Slovak Republic	R	
Spain	M	
Sweden	R	
Switzerland	R (OFCOM)	
Turkey	R	
United Kingdom	R	
United States*	R	

Notes: \* Entries for the United States only reflect telecommunications regulation at the Federal level.  
M – Ministry, R – Regulator.

Consumers choose services based mainly on price, but service quality is also a key factor. In many cases quality is a part of the universal service requirements for PSTN voice services. In a number of countries the regulator monitors service quality either to ensure that operators are meeting their licence obligations or for the purpose of providing information to consumers.

In some countries (*e.g.* Canada) quality of service indicators are being developed to ensure that incumbents provide network resources to new entrants in a timely manner and at predetermined levels of quality. Problems are arising in terms of quality in new service areas where regulators may have to develop new indicators (*e.g.* the speed of broadband connections). It can thus be expected that monitoring service quality will continue to be crucial as a safeguard against anti-competitive behaviour in the future.

#### 4.8. Regulatory bodies in broadcasting and telecommunications

**Table 13. Regulatory bodies in broadcasting and telecommunications**

Country	Telecommunications	Broadcasting carriage regulation	Broadcasting spectrum allocation	Content regulation
Australia	ACMA	ACMA	ACMA	ACMA
Austria	RTR-GmbH	Austrian Communications Authority (KommAustria)	KommAustria	KommAustria
Belgium	BIPT	<i>Vlaams Commissariaat voor de Media (VCM); Conseil supérieur de l'audiovisuel (CSA);</i> Government of the German Community	BIPT*1; VCM; CSA; Government of the German Community	VCM; CSA; Government of the German Community
Canada	CRTC	CRTC	Industry Canada	CRTC
Czech Republic	CTO	CTO	CTO in co-operation with the Council for Radio and Television Broadcasting (issues regarding the use of the frequency spectrum reserved for radio services must be discussed with the Council for Radio and Television Broadcasting)	The Council for Radio and Television Broadcasting
Denmark	National IT and Telecom Agency	Ministry of Culture; Radio and Television Board; National IT and Telecom Agency	National IT and Telecom Agency	Ministry of Culture; Radio and Television Board
Finland	FICORA	Ministry of Transport and Communications; FICORA	FICORA	Ministry of Transport and Communications; FICORA
France	ARCEP	<i>Conseil supérieur de l'audiovisuel (CSA)</i>	CSA	CSA
Germany	RegTP	RegTP, Association of Regulatory Authorities for Broadcasting (ALM), Commission on Concentration in the Media (KEK)* <sup>2</sup>	RegTP	ALM

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

Country	Telecommunications	Broadcasting carriage regulation	Broadcasting spectrum allocation	Content regulation
Greece	EETT	Ministry of Press and Mass Media; National Radio and Television Council (ESR)	EETT	ESR
Hungary	HIF	National Radio and Television Commission; HIF	HIF	National Radio and Television Commission
Iceland	PTA	PTA	PTA	PTA
Ireland	ComReg	ComReg, Broadcasting Commission of Ireland (BCI)	ComReg	BCI
Italy	AGCOM	AGCOM	Ministry of Communications	AGCOM
Japan	MIC; Telecommunications Business Dispute Settlement Commission	MIC	MIC	MIC
Korea	MIC; KCC	MIC, Korean Broadcasting Commission (KBC), Ministry of Culture and Tourism (MCT)	MIC	KBC, MCT
Luxembourg	ILR	<i>Ministère d'Etat, Le Service des Médias et des Communications; ILR</i>	ILR	<i>Ministère d'Etat, Le Service des Médias et des Communications</i>
Mexico	COFETEL	<i>SCT (Secretaría de Comunicaciones y Transportes); Secretaría de Educación Pública (SEP)</i>	SCT	<i>SEP; Radio, Televisión y Cinematografía (RTC) de la Secretaría de Gobernación</i>
Netherlands	OPTA; Radio-communications Agency	Dutch Media Authority	Radio-communications Agency	Dutch Media Authority
New Zealand	Commerce Commission	Ministry of Economic Development	Ministry of Economic Development	NZ On Air; Broadcasting Standards Authority (BSA)
Norway	NPT	Ministry of Culture and Church Affairs; Norwegian Media Authority <sup>*3</sup> ; NPT	NPT	Norwegian Media Authority
Poland	URTIP	National Broadcasting Council (KRRiT)	URTIP; KRRiT	KRRiT
Portugal	ANACOM	<i>ANACOM; Entidade Reguladora para a Comunicação Social (ERC)</i>	ANACOM <sup>*4</sup>	<i>Entidade Reguladora para a Comunicação Social (ERC); Instituto da Comunicação Social (ICS)</i>
Slovak Republic	Telecommunications Office of the Slovak Republic	Council for Broadcasting and Retransmission	Telecommunications Office of the Slovak Republic; Council for Broadcasting and Retransmission	Council for Broadcasting and Retransmission



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

Country	Telecommunications	Broadcasting carriage regulation	Broadcasting spectrum allocation	Content regulation
Spain	CMT; State Radio-communications Agency	CMT	Ministry of Industry, Tourism and Trade; State Radio-communications Agency	Ministry of Industry, Tourism and Trade* <sup>5</sup>
Sweden	PTS	Radio and Television Authority	PTS	Broadcasting Commission
Switzerland	OFCOM; ComCom	Federal Council; Federal Department of Environment, Transport, Energy and Communications; OFCOM	OFCOM	Federal Council; Federal Department of Environment, Transport, Energy and Communications; OFCOM; <i>L'Autorité indépendante d'examen des plaintes en matière de radio-télévision (AIEP)</i>
Turkey	Tele-communications Authority	Radio and Television Supreme Council (RTUK)	Tele-communications Authority; RTUK	RTUK
United Kingdom	Ofcom	Department for Culture, Media and Sport; Ofcom	Ofcom	Ofcom
United States	FCC; Public Utilities Commission	FCC; Local government for cable television franchises	FCC	FCC; Federal Trade Commission (FTC); Department of Justice (DoJ)

Notes: \*1 While BIPT is not responsible for planning broadcasting frequencies, its frequency management department does handle day-to-day coordination requests.

\*2 In Germany, broadcasting and its regulation are the responsibility of the states. The State regulatory authorities co-operate on matters of principle and on national issues in the Association of Regulatory Authorities for Broadcasting (ALM). The Commission on Concentration in the Media (KEK), which is an independent regulatory body with nationwide jurisdiction, examines whether diversity of opinion is assured in connection with the nationwide distribution of television programmes.

\*3 The Norwegian Media Authority was established in January 2005, which was composed of the former Mass Media Authority and the former Media Ownership Authority.

\*4 Frequencies to be used by the radio broadcasting public service concessionaire are allocated by joint dispatch of the government members responsible for the media, broadcasting and communications sectors.

\*5 At present Ministry is in charge, but once the new Broadcasting Council would be created, this would be its duty.

Regulatory oversight of broadcasting is shared among different institutions in many OECD member countries since they cover network regulation, spectrum allocation, content and advertising regulation. In addition, some countries have a body dealing with their own audio-visual policy. Different regulations have also been applied to services according to the means of transmission.

All except eight OECD countries have separate regulators for broadcasting and for telecommunications— Canada, Finland, Iceland, Italy, Japan, Luxembourg, United Kingdom, and the United States. Australia also announced in the 2004-2005 Budget that it would merge the Australian Communications Authority (ACA) and the Australian Broadcasting Authority (ABA) to establish a single telecommunications, broadcasting, radio-communications and online content regulator, the Australian Communications and Media Authority (ACMA), by 1 July 2005.

## 5. Conclusions

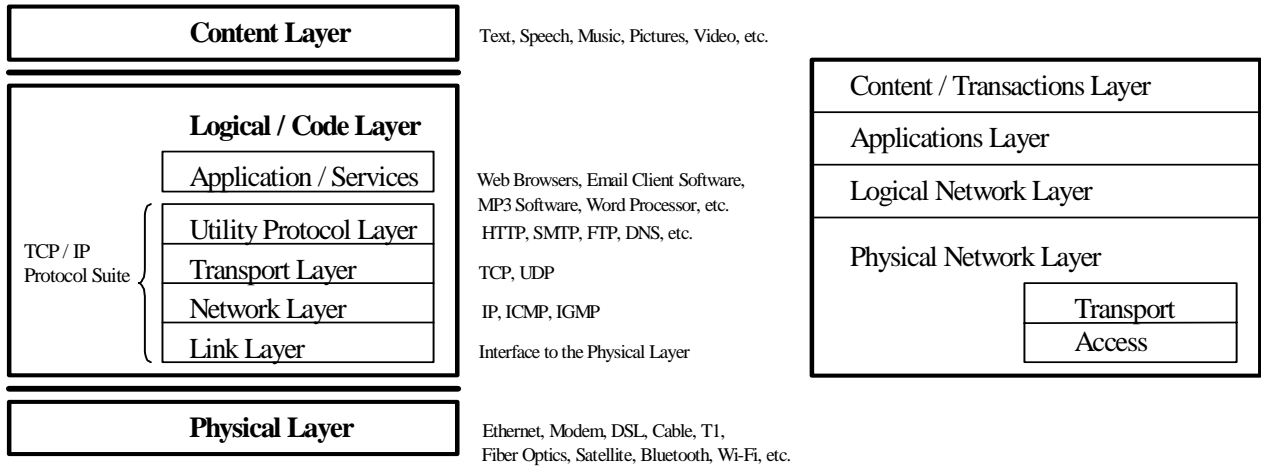
Almost all OECD countries have adopted a regulatory model for the telecommunication sector based on the creation of an independent regulatory authority. Sector specific regulators have often been viewed as temporary institutions created to ensure that effective competition was created in the sector. Once such competition was created regulators would forbear from regulation and over time the sector would be subject, as other industry sectors, only to oversight by the competition authority. Although telecommunication regulators have taken steps to forbear from regulation, and competition has been developing, it would be too premature to view the regulator as only a temporary institution. The development of new technologies, new services, issues such as convergence, and the implications that new voice services may have on universal service, all raise new important regulatory issues. The shift by operators to the “next generation network” may create further pressure to have a single regulatory structure which deals with electronic communications networks and services.<sup>10</sup> New technological developments now allow communications services which historically were regulated differently to appear identical from the consumer point of view. This underscores the regulator’s need to be mindful not only of issues related to companies, but also with the concerns of consumers. An independent regulator with the habit of interacting and learning from consumers will have an advantageous perspective on markets as different technologies vie for new or different regulatory actions.

A number of new regulatory concepts are being discussed in the industry literature. Some of these models involve regulation not only of networks but applications to ensure competition in all layers of the network (networks, services). It has been argued that cable broadband and DSL service providers should not discriminate *i.e.* should not be able to prevent users from accessing lawful content or attach non-harmful devices to the network. This recognises that protection of incentives for investment in broadband applications, which is critical for innovators, is necessary (Lessig and Wu 2003). This idea of a Network Neutrality Scheme is that the same pro-competitive course for the applications market should be used as is being used to stimulate inter-modal competition.

Network layer models are also being proposed (Figure 1). In these layer models services are no longer tied to discrete networks, facilities or technologies. That is because there is a convergence at the IP (middle) layer, and divergence at the network (lower) and services (upper) layers. Applications at upper layers can be developed or modified with little or no impact on lower layers. In this regard, if an entity with market power in one (lower) layer is prevented from extending that market power to an upper level, an even playing field in upper layers could result (Whitt 2004).

The development of new network structures may well, over time, result in the need for a review of existing regulatory structures and their responsibilities, in addition to a change in the regulations themselves. But many of the changes taking place in networks and applications are evolutionary, even though the changes may be rapid, rather than revolutionary. This requires that regulators are structured so as to manage rapid change in the industry and flexible enough so that their internal structures can change to be able to accommodate changes in the communications sector. In turn, regulators need to ensure that on the policy side changes are also being made which will meet the needs of users and the industry.

**Figure 1. Communications System Layers Model (left side) and a Proposed Layer Model by MCI (right side)**



Source: Whitt 2004: 609, 624.

## REFERENCES

- Baldwin, R. and Cave, M. (1999) *Understanding regulation: theory, strategy and practice*, New York, N.Y., Oxford University Press.
- Gilardi, F. (2002) 'Policy credibility and delegation to independent regulatory agencies: a comparative empirical analysis', *Journal of European Public Policy* 9(6): 873-893.
- Gilardi, F. (2005) 'Delegation to Independent Regulatory Agencies in Western Europe, Political Uncertainty, and Diffusion', *OECD Designing Independent and Accountable Regulatory Authorities for High Quality Regulation*, Expert Meeting, London, 10-11 January 2005.
- Lessig, L. and Wu, T. (2003) 'Re: Ex Parte Submission in CS Docket No. 02-52', [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6514683885](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6514683885)
- Majone, G. (1997) 'From the positive to the regulatory state: cause and consequences of changes in the mode of governance', *Journal of Public Policy* 17(2): 139-67.
- Thatcher, M. (2002) 'Regulation after delegation: independent regulatory agencies in Europe', *Journal of European Public Policy* 9(6): 954-72.
- Thatcher, M. and Stone Sweet, A. (2002) 'Theory and Practice of Delegation to Non-Majoritarian Institutions', *West European Politics* 25(1): 1-22.
- Whitt, R. (2004) 'A Horizontal Leap Forward: Formulating A New Public Policy Framework Based On The Network Layers Model', *MCI Public Policy Paper*, <http://global.mci.com/about/publicpolicy/presentations/horizontallayerswhitepaper.pdf>
- Wilks, S. with Bartle, I. (2002) 'The Unanticipated Consequences of Creating Independent Competition Agencies', *West European Politics* 25(1): 148-72.

## NOTES

- <sup>1</sup> See DSTI/ICCP/TISP(99)15/FINAL: 7.
- <sup>2</sup> As of December 2004, the International Telecommunication Union reported that there were 132 such independent regulatory authorities worldwide, compared to 14 in 1990. (ITU (2004/2005) Trends in Telecommunication Reform 2004/2005 Licensing in an Era of Convergence (Summary): 6).
- <sup>3</sup> In the case of a number of agencies, regulatory rules are made by Parliament or ministers and then enforced by agencies. However, as is often the case in the United States, regulators are sometimes equipped with rule-making powers (Baldwin and Cave 1999: 35, 69).
- <sup>4</sup> Similar works can be found in, for example, OECD (2005) 'Designing Independent and Accountable Regulatory Authorities for High Quality Regulation', Working Party on Regulatory Management and Reform, Proceeding of an Expert Meeting in London, United Kingdom, 10-11 January 2005; and Wu, I. (2004) 'Traits of an Independent Communications Regulator: a Search for Indicators', Federal Communications Commission, International Bureau, IB Working Paper No. 1. The latter also relates to section 4 of this paper.
- <sup>5</sup> OECD (2002) 'OECD Reviews of Regulatory Reform, Regulatory Reform in Turkey, Regulatory Reform in the Telecommunications Industry': 15.
- <sup>6</sup> Thatcher 2002: 959.
- <sup>7</sup> On which matters the Council of Ministers can suspend decisions of the BIPT are to be determined by a Royal Decree when it considers such a decision to be illegal or contrary to the public interest. However, to date, no such decree has been adopted.
- <sup>8</sup> Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive): Article 16-1.
- <sup>9</sup> Prior to 1999, the ministry, the regulator and the competition authority had responsibility in this area.
- <sup>10</sup> An argument has been put forward in the literature (Gilardi 2005) that over time the regulator may be terminated or become integrated into the Ministry. There are several factors which will determine how the regulator will develop, including the demand for continuity of policy, political uncertainty, which leads to an evolvment of delegation to independent regulatory authorities. These factors are not constant over time, and if they alter in their importance, a reconsideration of independent regulatory authorities can be expected. In addition, independent regulatory authorities are widespread and taken for granted, but should certain countries embrace a new model or go back to regulation through the ministry, such new models may be imitated on a more widespread basis.