

# ITU Regulatory Tools: Enabling the Information Society

Joint Facilitation Meeting on WSIS Action Lines C2, C4 and C6,  
ITU Headquarters, Geneva, Switzerland  
20 May 2008

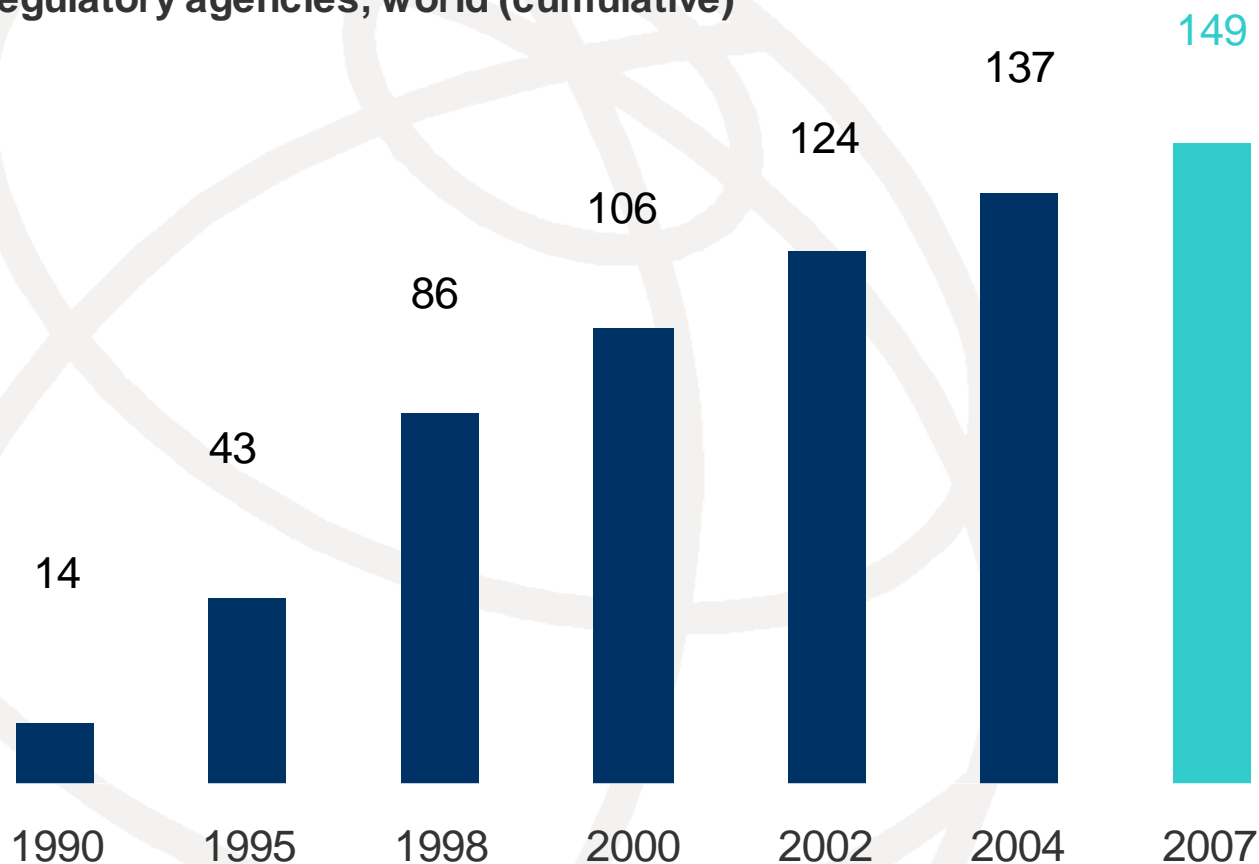
Nancy Sundberg  
[nancy.sundberg@itu.int](mailto:nancy.sundberg@itu.int)

Regulatory & Market Environment Division,  
Telecommunications Development Bureau (BDT)  
International Telecommunication Union



# Snapshot of regulatory trends

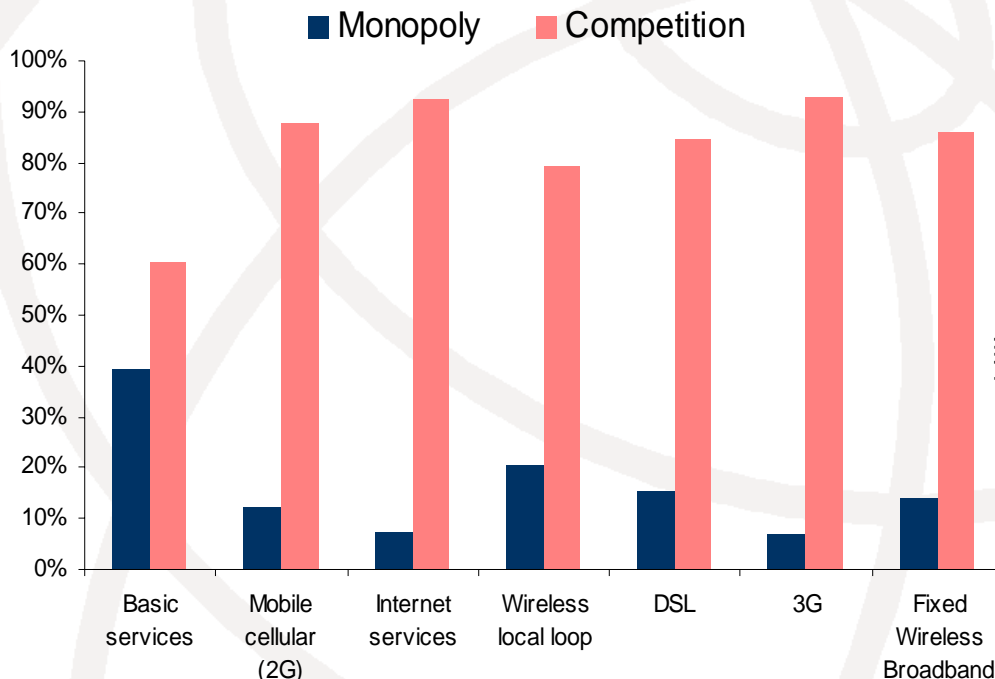
Regulatory agencies, world (cumulative)



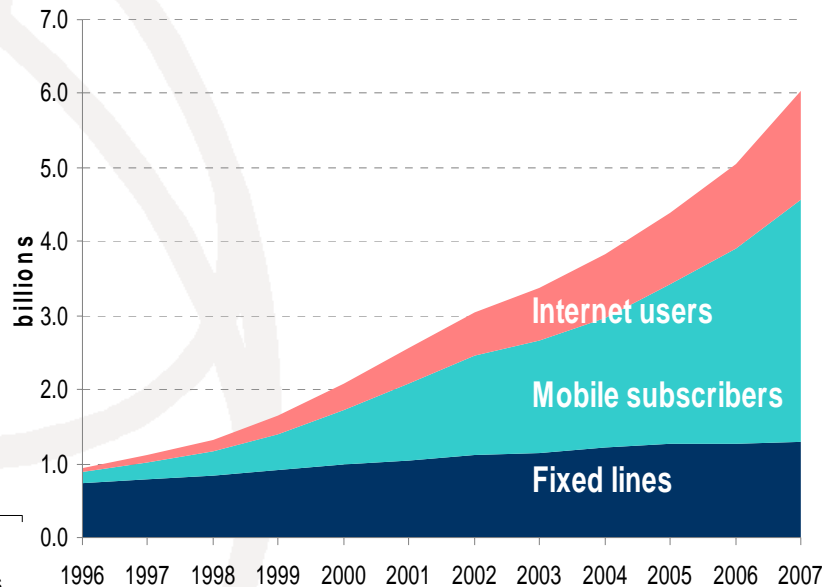
Source: ITU World Telecommunications Regulatory Database

# Snapshot of regulatory and market trends

Competition in selected services, world, 2007



Growth in fixed lines, mobile & Internet, in billions, 1996-2007



Source: ITU World Telecommunications Regulatory Database



# GSR08

11-13 March, Pattaya, Thailand

**Attendance:** 536 Participants from 97 countries

**Organization:** ITU in collaboration with the Ministry of Information and Communication Technology and the National Telecommunications Commission (NTC)

**Chair:** National Telecommunication Commission - Thailand

**Theme:** *Six degrees of sharing:*

*Innovative infrastructure sharing and open access strategies to promote affordable access for all*

**Programme:**

- 1<sup>st</sup> day open to the private sector
- 2<sup>nd</sup> day reserved for regulators and policy makers

**Output :** Best practice guidelines on innovative sharing strategies to promote affordable access for all

**Related event:** ITU Global ICT Industry Leaders Forum, 10 March 2008  
([www.itu.int/ITU-D/partners/index.html](http://www.itu.int/ITU-D/partners/index.html))

# GSR Past Editions



2007 Next-Generation Network (NGNs) Regulation  
Dubai, United Arab Emirates



2005 Regulation in the Broadband World  
Hammamet, Tunisia

2004 Licensing in an Era of Convergence  
Geneva, Switzerland

2003 Promoting Universal Access to ICT's  
Geneva, Switzerland

2002 Regulating for End-users  
Hong Kong, China

2001 Effective Regulation

2000 Launching the dialogue among Regulators  
Geneva, Switzerland





# GSR08 Best Practice Guidelines

*on Innovative infrastructure sharing and open access strategies to promote affordable access for all*

- *Appropriate Regulatory framework*

...We recognize the need for an appropriate regulatory framework fostering broadband access including Internet, to enable the development of infrastructure-based competition, in addition to service-based competition, and the emergence of new innovative players at the national level.

- *Competition and investment incentives*

...We recognize the importance of ensuring that regulatory policy does not restrict competing market players installing their own independent facilities, and that it promotes open access to international capacity and international gateways (for example, collocation and connection services at submarine cable landing stations).

- *Sharing of regulatory practices*

...Regulators recognize the need for an appropriate level of international and regional harmonization to ensure that best practice regulatory policies on sharing are widely spread, and regional organizations have an important role to play in this regard.

- ...



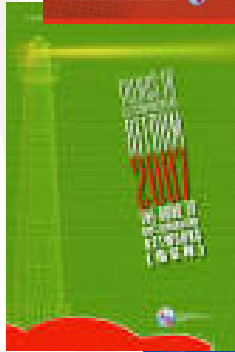
# The 10 GSR 08 Discussion Papers

- Overview: What do we mean by 6 Degrees of Sharing?
- Mobile Sharing
- Extending Open Access to National Fibre Backbones in Developing Countries
- Breaking Up is Hard to Do: The Emergence of Functional Separation as a Regulatory Remedy
- International Gateway Liberalization: the Singapore experience
- Spectrum Sharing
- WRC-07 Results and Impact on Terrestrial Broadband Wireless Access Systems
- End User Device Sharing
- IPTV and Mobile TV: New Challenges for Regulators
- International Mobile Roaming Regulation – An Incentive for Cooperation

# Trends in Telecommunication Reform



**Trends in Telecommunication Reform 2008:  
Six Degrees of Sharing  
(Coming soon!)**



**Trends in Telecommunication Reform 2007:  
The Road to Next-Generation Networks (NGN)**



**Trends in Telecommunication Reform 2006:  
Regulating in a Broadband World**



**Trends in Telecommunication Reform 2004/2005:  
Licensing in an era of convergence**

May 2008







- ITU ICT Eye
- ICT Statistics
- Regulatory Information
- Tariff Policies
- Scientific Institutions
- WSIS Stocktaking

- » ITU ICT EYE +
- » REPORTS +
- » SURVEY LOGIN +

Welcome to ITU's ICT Eye

ITU, the UN specialized agency for telecommunications, has its "eye" on ICTs and is recognized around the globe as the leading provider of timely and comprehensive telecommunication/ICT statistics and trends.

The ICT "eye" website is a one stop-shop for ICT information and provides telecommunication/ICT indicators and statistics, regulatory and policy profiles, national tariff policies and scientific institutions, and much much more...

Please select a country/economy from the map or select from the following list:



Macromedia Flash MX plug-in is needed to view / use the map above. Download [here](#).

Map used with permission from the [United Nations Cyberschoolbus](#), Outreach Division, DPI.

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[www.itu.int/icteye](http://www.itu.int/icteye)



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ICT Statistics

Select Year

- [1. Basic indicators: Population, GDP, total telephone subscribers and total telephone subscribers per 100 people](#)
- [2. Main telephone lines, subscribers per 100 people](#)
- [3. Mobile cellular, subscribers per 100 people](#)
- [4. Internet indicators: subscribers, users and broadband subscribers](#)

*For definitions, see the technical notes*

Tariff Policies

Region

Teledensity level

GDP level

Year From  To

- Cost and Tariff Models
- Universal Service Policy
- Tariff Rebalancing
- Time Bands, Tariff Zones and Interconnection
- Network Based on IP
- Price Controls - Telecom services
- Concept of Dominance
- Next-Generation Networks
- Survey question:

Show statistics

Scientific Institutions

Geographical approach

Region

Country

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Thematic approach

Institution data can be filtered by specifying various search criteria.

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Regulatory Information

Regional Reports

Select Region

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[Licensing agreements](#)

[Dispute resolution decisions](#)

[Countering spam legislation and responsible countering spam authority](#)

[IP Telephony](#)

[Spectrum information](#)

[Sector Structure - Private Sector Participation](#)

Country Reports

Country

[Country Snapshot](#)

[Country Profile \(includes contact details, market structure and regulatory environment\)](#)

[Regulators Profile \(Includes details on the Regulators structure, financing and functions\)](#)

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**Switzerland**



**Level of Competition 2007**

Service	Competition
Local services	Full competition
Domestic fixed long dist	Full competition
Inter-national fixed long dist	Full competition
Wireless local loop	Full competition
Data	Full competition
DSL	Full competition
Cable modem	Full competition
VSAT	Full competition
Leased lines	Full competition
Fixed Wireless Broad-band	Full competition
Mobile	Full competition
Paging	n/a
Cable TV	Full competition
Fixed sat	Full competition
Mobile sat	Full competition
GMPCS	Full competition

**ICT Statistics 2007**

Population	7 483 972
GDP (US) (2006)	387 703 349 282
Fixed telephone lines per 100 inhab.	66.81
Mobile cellular subscribers per 100 inhab.	108.18
Computers per 100 inhab. (2006)	88.30
Internet users per 100 inhab.	61.60
Broadband Internet subscribers per 100 inhab.	32.07
International Internet bandwidth (Mbps) (2005)	71 464
Radio sets per 100 inhab. (1997)	99.92
TV sets per 100 inhab. (2005)	57.78
% population covered by mobile signal	100.00

[»» ICT Statistics database](#)

**Tariff Policies 2006**

**Price of domestic telecommunication services**

- On the basis of the individual production costs of each service
- Set by the State

**Tariff model - type of costs**

- Current costs
- Historical costs

**Universal service policy**

- Mandatory contribution to a universal service fund
- Obligatory investment in unprofitable areas
- State-imposed limit on the monthly subscription fee
- State-imposed limits on installation charges
- State-imposed limits on the price of domestic calls

**Time period for absorbing access deficit**

- None

**Tariff rebalancing strategy - elements**

- None

**Regulatory Information 2007**

**Regulatory Authority**

**Name** Office Fédéral de la Communication (OFCOM)  
**Address** 44, rue de l'Avenir  
**City** 2501 Bienne  
**Phone** +4132 327 55 11  
**Fax** +4132 327 55 55  
**Email** [empfang@bakom.admin.ch](mailto:empfang@bakom.admin.ch)  
**Website** <http://www.ofcom.ch>

**Policy Maker**

**Name** Département fédéral de l'Environnement, des Transports, de l'Energie et de la Communication (DETEC)  
**Address** Secrétariat Général du DETEC Palais Fédéral Nord  
**City** 3003 Berne  
**Phone** +41 31 322 41 11  
**Fax** +41 31 322 95 76  
**Email**  
**Website** <http://www.uvek.admin.ch/index.html?lang=fr>

[»» More Regulatory info](#)

**Status of the main fixed-line operators**

Operator	Status
Swisscom SA	Partially private





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The **ICT Regulation Toolkit** is a live resource for policy-makers, regulators, the telecom industry, and consumers. It provides a global overview of how telecom policy is best implemented with practical materials highlighting experience and results. [▶ More](#)

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- NEW Executive Summaries for Modules 1 and 6 now available in French, Spanish, Russian, Arabic and Chinese!**

- EVENTS**
- ▶ [Training Workshop for Regulators and Policy Makers in Eastern and Southern Africa](#)  
Addis Ababa | 6-9 Nov 07
  - ▶ [Global Symposium for Regulators 2008 \(GSR08\)](#)  
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### Module 1: Regulating the Telecommunications Sector: Overview

Telecommunications growth and innovation, Telecommunications and economic development, rationale for regulation, Principles for effective regulation, Key success factors and risk of failure, Institutional responsibilities.

▶ [Table of Contents](#) | Availability: Released  
[Overview in French](#) | [in Spanish](#) | [in Russian](#) | [in Chinese](#) | [in Arabic](#)

### Module 2: Competition and Price Regulation

Fair competition, Interconnection and access, Prices, Benchmark price regulation, Data requirements, Effective price regulation.

▶ [Executive Summary](#) | [▶ Table of Contents](#) | Availability: Released

### Module 3: Authorization of Telecommunications Services

Introduction, Authorization approaches, Competitive licensing processes, Authorization practices, Special authorization situations.

▶ [Executive Summary](#) | [▶ Table of Contents](#) | Availability: Released

### Module 4: Universal Access

Principles and basic concepts, Market shortfalls and development gaps, Roles of the government and the private sector, Scope of support beyond the market, Principles of cost-effective support, Funding sources and mechanisms.

▶ [Table of Contents \(beta\)](#) | Availability: July 2008

### Module 5: Radio Spectrum Management

Current trends, Technical aspects, Scope of spectrum use and issues, International administrative framework, National institutional arrangements, Authorizing spectrum use and Assigning frequency bands to users and technologies, Stakeholders, Spectrum Pricing, Monitoring and enforcement, and Capacity building for regulators

▶ [Executive Summary](#) | [▶ Table of Contents](#) | Availability: Released

### Module 6: Legal and Institutional Framework

Laws and regulations, International treaties and agreements, WTO, National legislation and regulations; Institutional arrangements for telecommunications regulation; Regulatory processes, Relationships with judiciary and competition authorities; Governance, Realistic design options, Human resources and capacity building.

▶ [Executive Summary](#) | [▶ Table of Contents](#) | Availability: Released  
[Executive Summary in French](#) | [in Spanish](#) | [in Russian](#) | [in Chinese](#) | [in Arabic](#)

### Module 7: New Technologies and Impact on Regulation

New technologies and applications, Convergence, Internet's impact on networks, business models, market structures, and regulation; Broadband, the way forward.

www.ictregulationtoolkit.org



## TOOLKIT

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### Module 6. Legal and Institutional Framework

## Module 6. Legal and Institutional Framework

The telecommunications sector has undergone extensive changes in recent decades, from a monopoly structure to one of competition, motivated by the evolution of new technologies and services, the growing importance of telecommunications for national economies and the development of international trade in telecommunications services. This module provides an analysis of how countries have undertaken regulatory reform to adapt to these changes, and explores the legal and institutional framework necessary for effective regulation. The module is organized in seven chapters:



### 1. Introduction

The Introduction provides a roadmap of the study and an overview of the objectives of the module.

### 2. Why Regulate?

This Chapter briefly discusses the need for regulation to ensure the market transition from monopoly to competition and to safeguard the public interest.

### 3. Legal Context of Regulatory Reform

This Chapter provides an overview different factors that may impact regulation, such as: (i) the different legal and cultural traditions of each country; (ii) the national and international commitments undertaken by the government; (iii) the impact of other legislation that impact the sector; and (iv) level of maturity of the market.

### 4. Impact of Convergence

This Chapter examines the impact of convergence on regulation of the sector, analyzing how regulators have responded to convergence with more flexible and streamlined regulatory frameworks and how ICT related laws have impacted the sector.

### 5. Elements for an Effective Regulator

The objective of this Chapter is to identify what it means to be an effective regulator, and the different dimensions of effectiveness, including structural and financial independence and functionality.

### 6. Organizational and Institutional Approaches to Regulation

This Chapter provides a detailed analysis of the organizational and institutional approaches to regulation, and discusses institutional design options, the separation of power and relationship of the regulator with other entities, the legal status of regulators, their funding process, staffing procedures and ethical conduct.

### 7. Functional Aspects of Regulation

This Chapter provides an analysis and overview of the regulator's competencies, mandate and regulatory procedures, including decision-making procedures, accountability of regulatory activities, and dispute resolution and enforcement procedures.

## SEE ALSO:

[Legal and Institutional Aspects of Regulation: Executive Summary](#)

## CONTENTS

▶ [Executive Summary](#)



**IN THIS SECTION**

- Executive Summaries
- 1 Introduction
- ▶ **2 Why Regulate?**
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- ▶ More events

- ▶ ICT Regulation Toolkit
- ▶ Module 6. Legal and Institutional Framework
- ▶ **2 Why Regulate?**

## 2 Why Regulate?

To understand the role of regulation in enabling the growth and development of the information and communications technology (ICT) sector and the requirement of a strong legal and regulatory framework for effective regulation, first it is necessary to discuss the need for regulation. This Chapter provides an overview of the reasons for regulation given the structural changes in the telecommunications sector from monopoly to competition, and the importance of regulation in transitioning to an effective competitive environment and fostering the long-term development of the ICT market.

**CONTENTS**

- ▶ 2.1 Evolution of Regulatory Reforms
- ▶ 2.2 Regulation in Transition to Competitive Market
- ▶ 2.3 Regulation in a Fully Competitive Environment
- ▶ 2.4 Benefits of Regulation

**REFERENCE DOCUMENTS**



### ITU Effective Regulation Case Study: Morocco

▶ More



### Introducing Telecommunications Competition through a Wireless License

▶ More



### Feedback to Regulators from the Private Sector

▶ More



### European Competitive Telecommunications Association Regulatory Scorecard 2005

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The global information and communication technology (ICT) sector is in the process of continual change brought about by technological innovation and convergence, sector liberalization and increased private sector participation. While these trends have contributed to the strong economic growth of the sector, they have also made the task of ICT decisions making bodies more complex. As a result, there is a need to continuously improve the decision making processes of regulatory and oversight bodies in the ICT sector.

The purpose of this database is to facilitate the **global exchange of information, experience and precedents among stakeholders** in order to promote the application of effective decision making techniques. [\[ more \]](#)

**Browse Decisions by Theme**

- Authorisation/Licensing
- Competition Policy
- Consumer Protection
- Interconnection and Price Regulation
  - *Mobile Termination*
  - *Co-location*
- Scarce Resources Management
- Universal Access/Service
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## Economics and Finance of Telecommunications

### News

**New! COSITU Guide on Data Collection for the Application of the COSITU Model**

This data collection guide is a follow-up to the COSITU user manual. It provides a methodology to help telecommunication regulators and operators to efficiently calculate costs, taxes related to trade in international traffic, interconnection rates between local operators, and tariffs for national and international telephone services, both fixed and mobile, on the basis of a rigorous cost model.



**Trends in Economics and Finance:** The Use of Economic Modelling in Telecommunications

In the telecommunication industry, economic modelling techniques such as regression analysis, simulations and linear programming are powerful tools that can aid decision making for governments, regulatory authorities and telecommunication operators. Nevertheless, in many countries such techniques are often under-employed. The aim of this report is to describe the various economic modelling techniques and how they can be used to solve practical problems facing the telecommunication industry.



**Reports on Market Liberalization for CEE countries and Baltic States**

This report on the theoretical and practical aspects of the significant market power in telecommunications was prepared by Prof. Dr Paul J.J. Welfens (welfenspjj@aol.com), President of the European Institute for International Economic Relations at the University of Wuppertal in Germany. It is part of a series of ITU telecommunication studies analyzing economic aspects of telecommunications carried out by ITU/BDT's Regulatory and Market Environment Unit (RME).



**Survey on tariff policies, tariff models and calculation methods on national telecommunication service rates**

**Call for Case Studies – Tariff policies, tariff models and methods of**

### ICT-Eye



**The ICT Eye**  
a one stop-shop for ICT information  
**What is the eye?**

### ITU work on financing

- COSITU SP2:** the ITU model for the calculation of Costs, Tariffs and Rates for Telephone Services
- Negotiating tariffs or rates is a delicate matter, whether it is for a new operator entering a liberalized market or a regulator wishing to set affordable tariffs for national calls without compromising competitiveness among operators.
- New! Regional diagnosis of telecommunication policies, strategies and regulations, and the development of Information and Communication Technology (ICT) Use in the areas of education, health and disasters in rural areas, isolated regions and in marginalized urban areas.** Available only in Spanish
- New! Study: On the application of cost models in Latin American and Caribbean countries**
- Study: Financing paradigm for the Information Society**
- Study: IP-based networks: Pricing of telecommunication services**
- Project: Regional assessment of the telecommunication market in Latin America and the Caribbean:** Agenda for Connectivity in the Americas



### ITU work on economics

- Expert Dialogues**
- Adjusting Forecasting Methods to the Needs of the Telecommunication Sector** in collaboration with the **International Institute of Forecasters**
  - Managing Risk in the Competitive Environment of the Telecommunication Sector**
  - Investing in telecommunications and ICTs in Developing Markets: Shifting the Paradigm**

www.itu.int/treg



<b>Regulatory Reform</b>
ICT EYE Facts & Regulatory Information
Publications
Events
Data & Research
Useful Links
GREX Virtual Tool for Regulators
Address book
Economics and Finance

### Global Symposium for Regulators (GSR)



- 8th GSR! Pattaya, Thailand, 11-13 March 2008  
- Six degrees of sharing: Innovative infrastructure sharing and open access strategies to promote affordable access for all
- [The History](#)
- [News: GSR Best Practice Guidelines](#)
- [News: Photos from the event](#)

### The ITU ICT Eye



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### More Events

- [9th Forum on Telecom/ICT Regulation and Partnership in Africa \(FTRA 2008\) Dakar, Senegal 4-6 June 2008](#)
- [Arab Region Regulatory Harmonization Initiative Kick-off Meeting Manama, Bahrain, 21-22 October 2007](#)
- [The ITU/ACMA International Training Program 2007 \(ITP 2007\), Melbourne and Canberra, 22 October-2 November, 2007](#)
- [Seminar on Establishing New Regulators in the Asia Pacific Region Ventiane, Lao PDR, 26-27 October 2007](#)
- [Training on Competition and Changing Market Conditions: Impact on ICT Regulation 6-9 November, Addis Ababa, Ethiopia](#)
- [West Africa Workshop on Policy and Regulatory Frameworks for Cybersecurity and CIIP Praia, Cape Verde, 27-29 November 2007](#)

### News

**RME Newslog:**  
News related to ICT Regulations

- [Honk Kong - OFTA investigates into suspected use of unlicensed radio transmitter equipment](#)
- [Bolivia - SITTEL interviene ENTEL S.A. para preservar la continuidad de los servicios](#)
- [U.S. - Interim cap clears path for comprehensive reform under the Universal Service Fund](#)
- [Ecuador - El Estado garantiza continuidad del servicio móvil](#)
- [Ireland - Review of the Code of Practice for Carrier Pre-Selection](#)
- [ITU Performance Award](#)
- [ITU News: September 2007](#)
- [ITU News: March 2007](#)

**The Road to Next-Generation Networks (NGN)**

- [Global trends in telecommunications](#)
- [Rethinking universal access](#)
- [GSR issues Best practice guidelines](#)
- [Early adopters of NGN](#)

### Surveys

- The [2007 Telecommunication Regulatory Survey](#) is open!

### Cooperation Projects



**ICT Regulation Toolkit**  
The ICT Regulation Toolkit is a web-based tool, organized as a series of lined module to provide regulators, telecom service providers, policy makers, sector experts and the general public with latest on regulatory topics, best practices, and case studies.

- [Regulating the telecommunications sector -- overview](#)
- [Competition and price regulation](#)
- [Authorization of Telecommunications Services](#)
- [Universal Service](#)
- [Radio Spectrum management](#)
- [Legal and institutional framework](#)
- [New technologies and impact on regulation](#)

### Publications

- [Trends in Telecommunication Reform 2007: The Road to Next-Generation Networks \(NGN\)](#)
- [Trends in Telecommunication Reform 2006: Regulating in the Broadband World](#)
- [Case Studies](#)

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