Use of ICT Indicators in regulation

Capacity Building Workshop on Information Society Statistics

Bangkok
Nov 8, 2007

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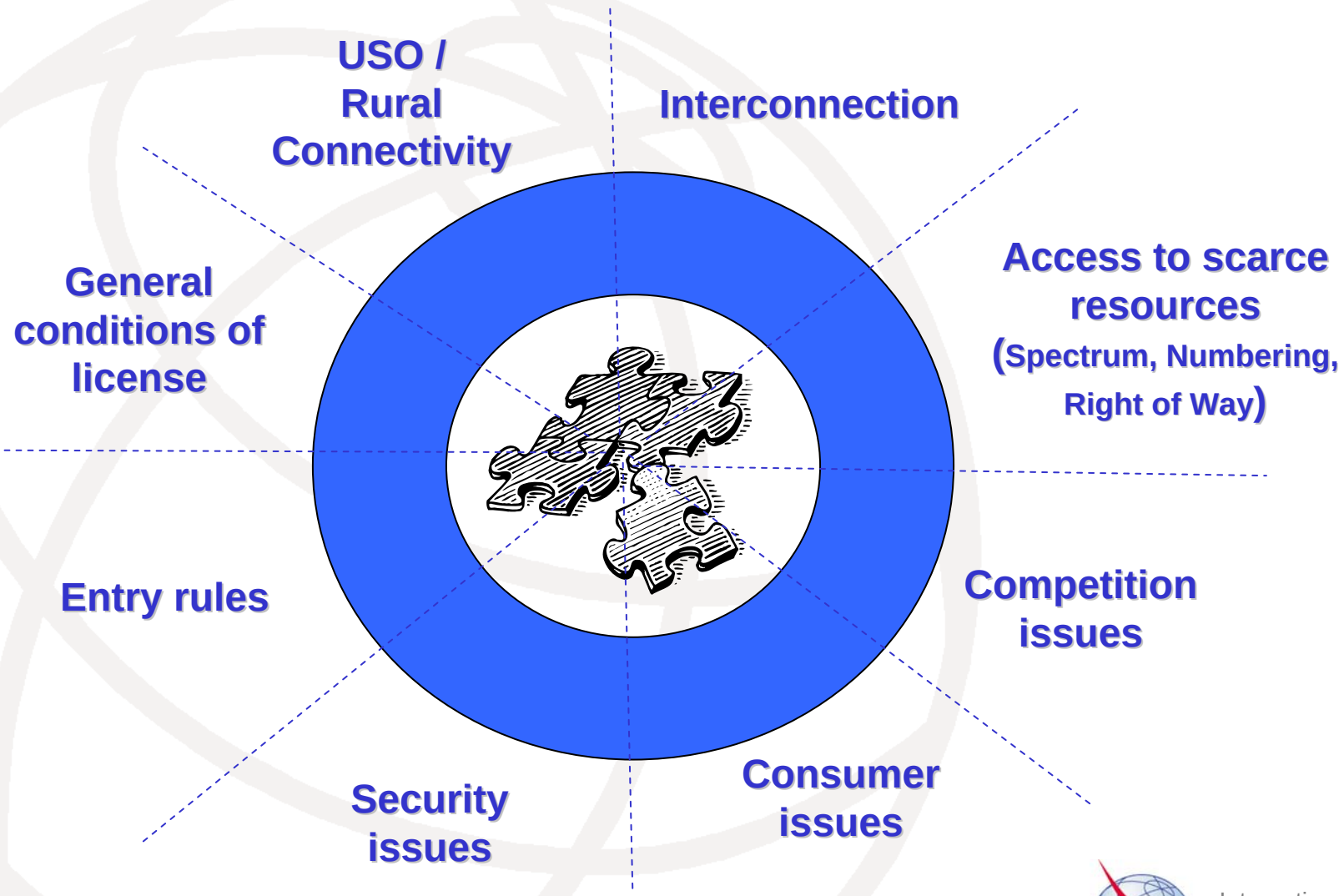
Overview

- Key elements of regulatory framework
- Use of ICT Statistics to track broad trends
- Interpreting ICT Statistics for decision making
- Regulatory Statistics for decision making
- Challenges
- Conclusion

Key elements of Regulatory framework

Key Elements of Regulatory Framework



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Use of ICT Statistics (Non exhaustive list)

	Examples
Use of ICT Statistics to track broad trends	Growth of various services Affordability of services Revenue streams Availability of services
Interpreting ICT Statistics for decision making	Performance Monitoring / QoS Tariffs Universal Service / Coverage Cost Data
Regulatory Statistics for decision making	Institutional Trends Market entry rules Regulating new services Interconnection

Use of ICT Statistics to track broad trends

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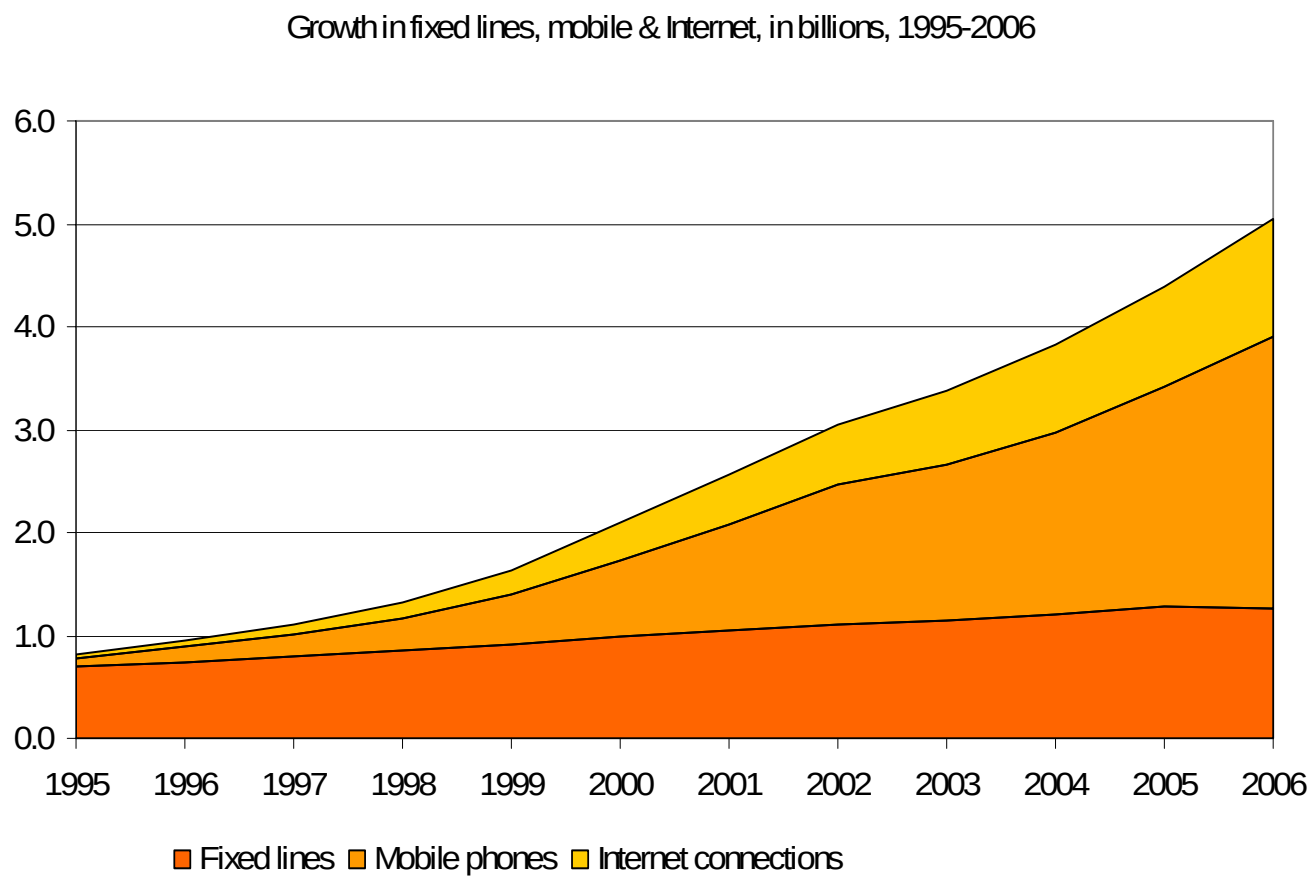
ICT Growth Trend [1]



Source: ITU World Telecommunication / ICT Indicators Database

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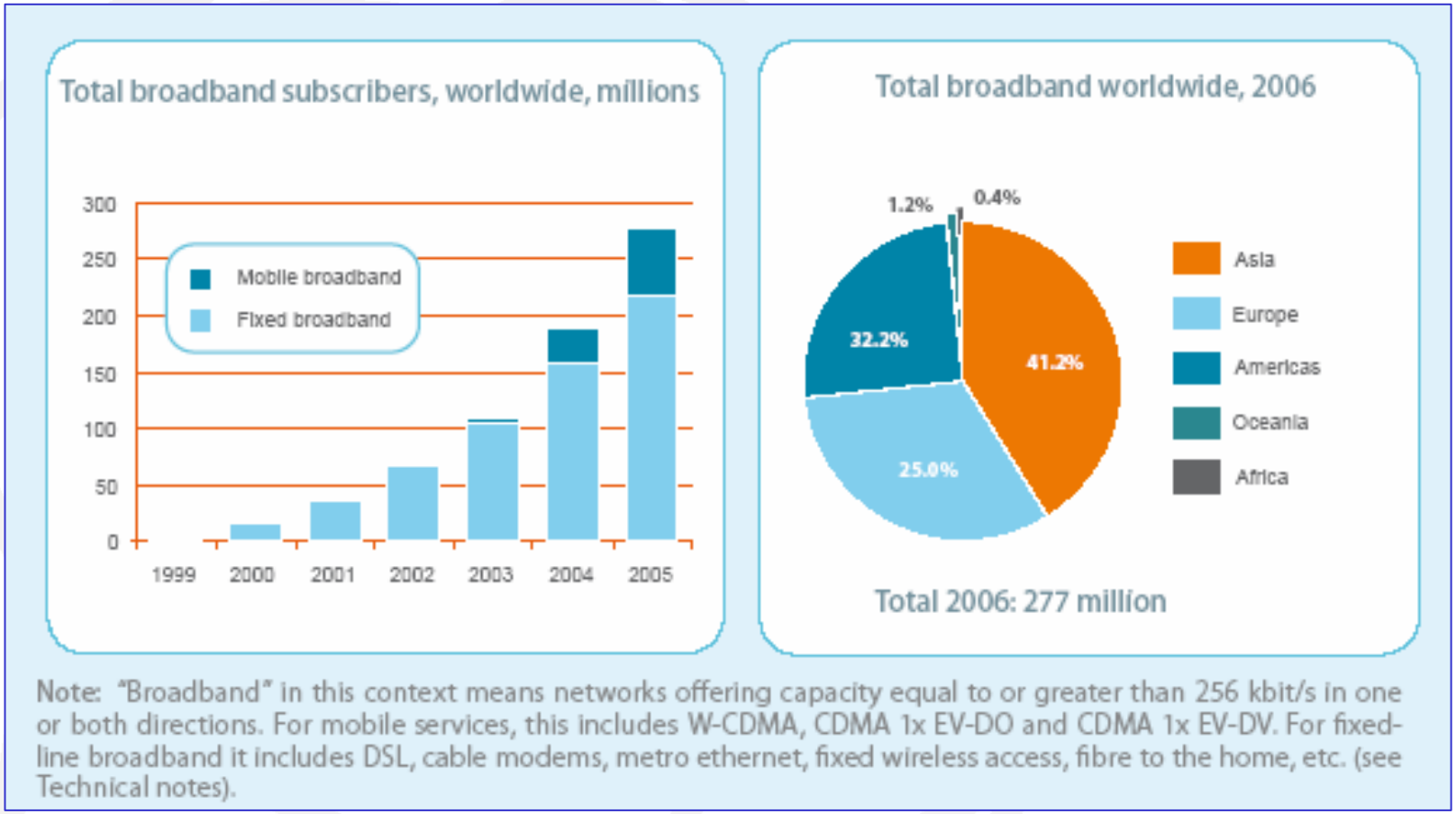
ICT Growth Trend [2]



Source: digital. Life, ITU Internet Report 2006

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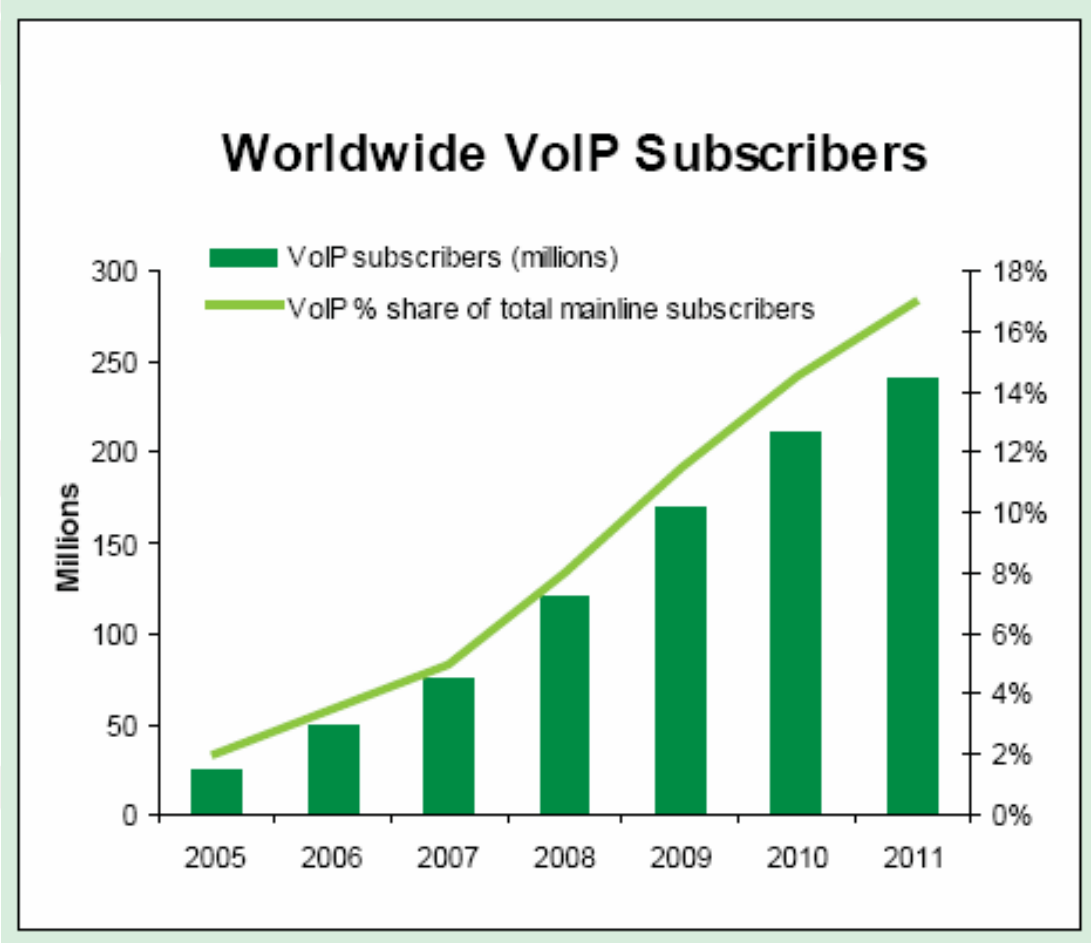
ICT Growth Trend [3]



Source: ITU Telecommunication Regulatory Survey 2006 and ITU, The state of VoIP worldwide 2006, at www.itu.int/osg/spu/ni/voice/papers/FoV-VoIP-Biggs-Draft.pdf (right chart), iDATE (left chart).

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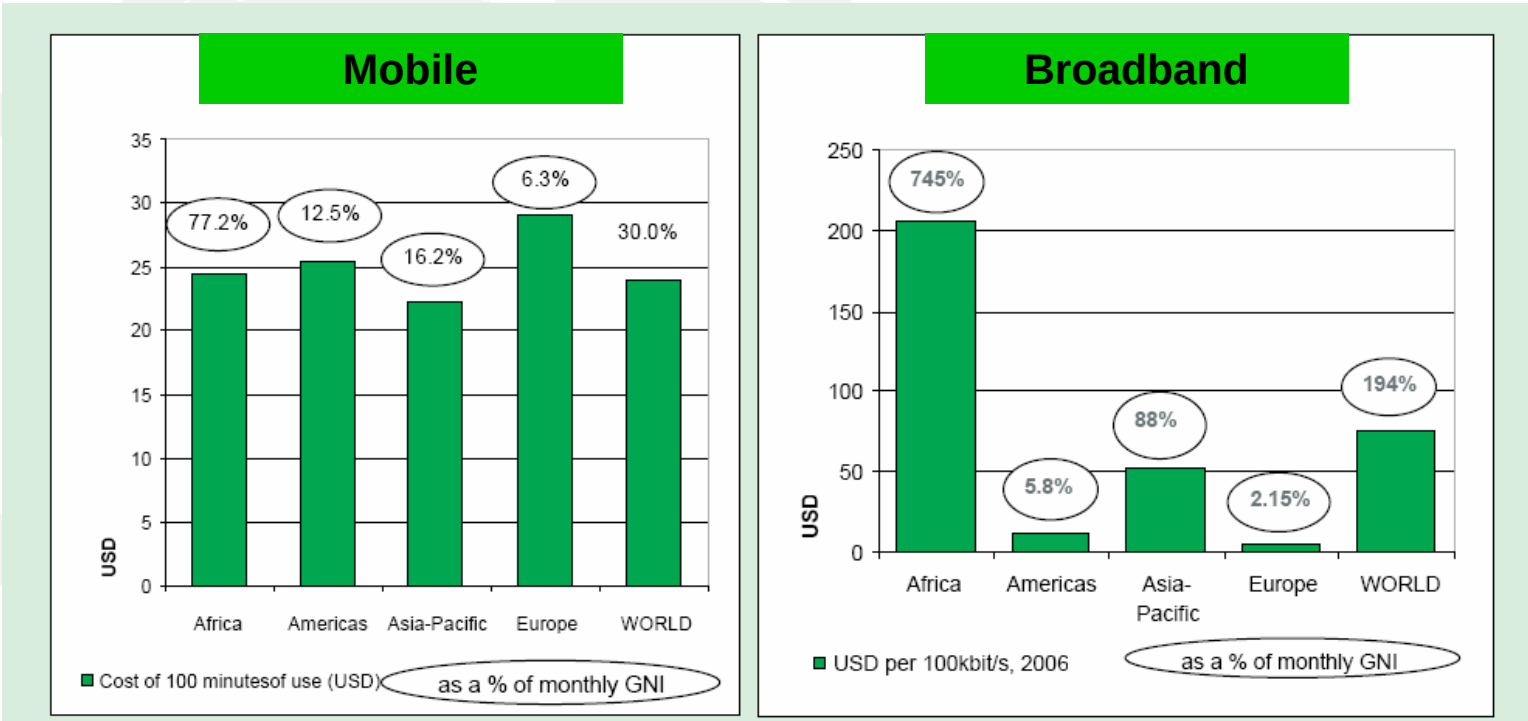
How affordable are services?



Note (left chart): Mobile cellular tariffs: *100 minutes of use* includes the tariff components of 50 minutes of local peak time calling and 50 minutes of local off-peak calling. The connection charge is not taken into account, except where this is bundled into the cost of an account. *A percentage of per capita income* is computed by dividing the 100 minutes of use by the Gross National Income (GNI) of the country (World Bank, Atlas method, current USD).

Note (right chart): ITU's methodology for evaluating broadband access assesses the cost of a monthly subscription to broadband on the basis of a representative sample of offers for each country with commercial broadband available in USD per 100 kbit/s (to take into account packages at different speeds). Where charged by time, the cost of 100 hours of Internet access is evaluated. Where charged by data download, the equivalent of 1 Gbit of data per month is assessed.

Source: ITU, Measuring the Information Society 2007 (left chart) and ITU-UNCTAD World Information Society Report 2007: Beyond WSIS (right chart).

Source: ITU, Measuring the Information Society 2007 and ITU UNCTAD World Information Society Report 2007: Beyond WSIS

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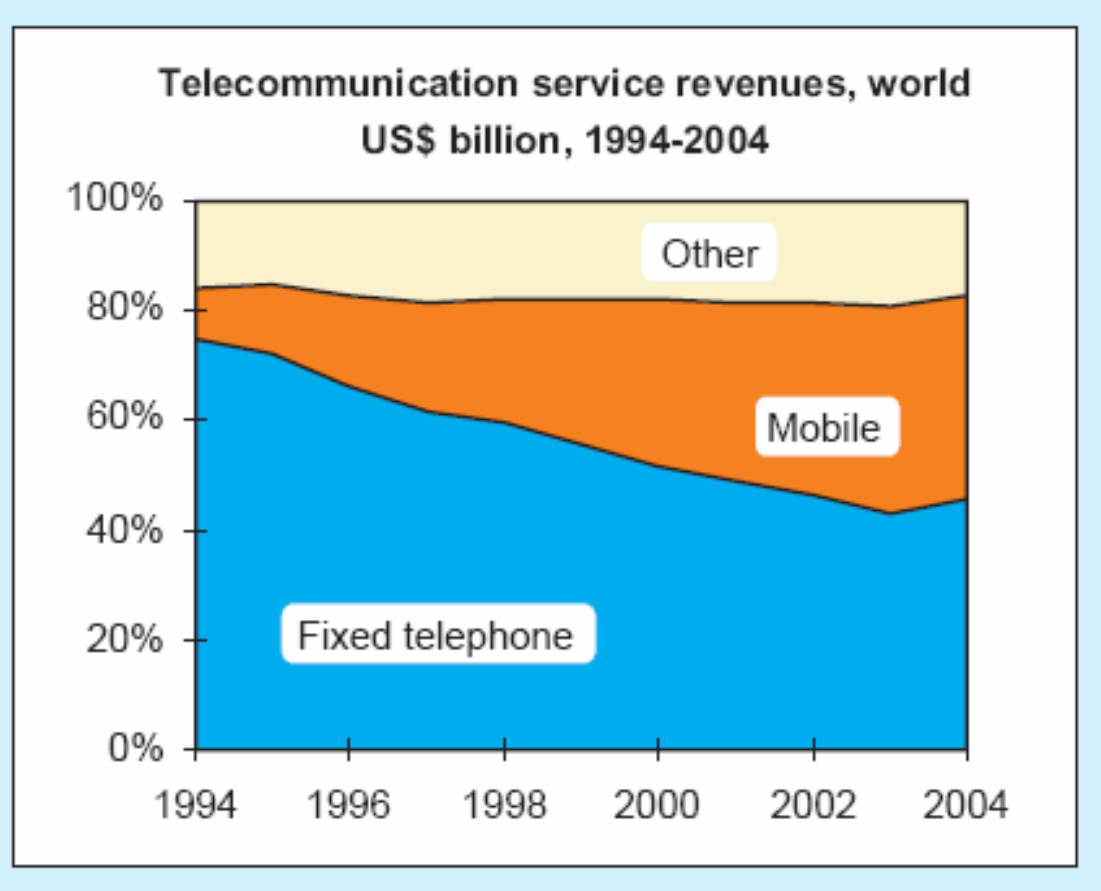
Distribution of revenue



Source: ITU World Telecommunication Indicators Database

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Availability of Services

- **Waiting list**
  - Number
  - Waiting time (in years)
- **Percentage population covered by mobile telephony**

Source: ITU World Telecommunication Regulatory Database

Interpreting ICT Statistics for decision making

Implementation of regulatory initiatives (Examples)

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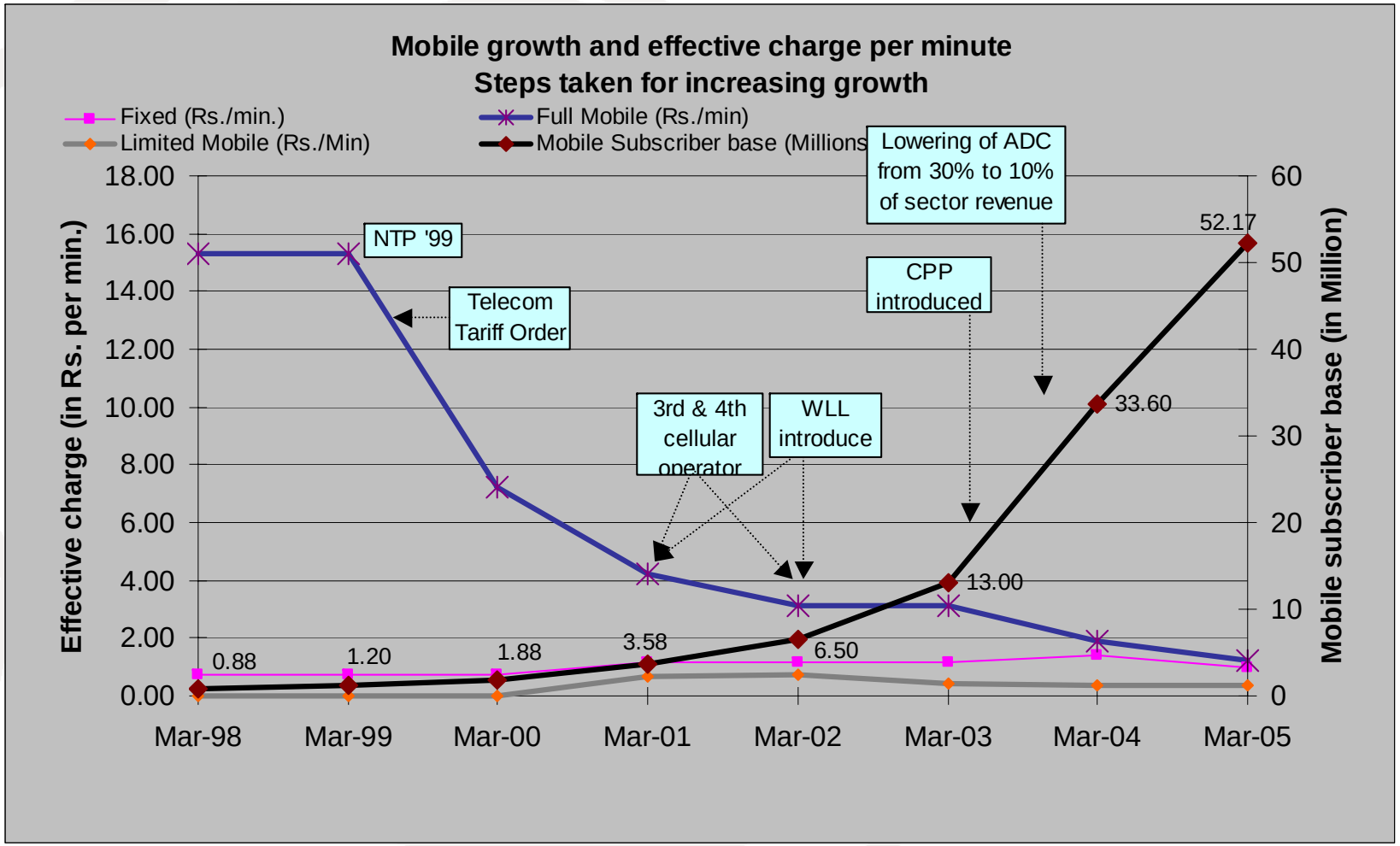
Impact of competition on tariffs & subscriber growth in India



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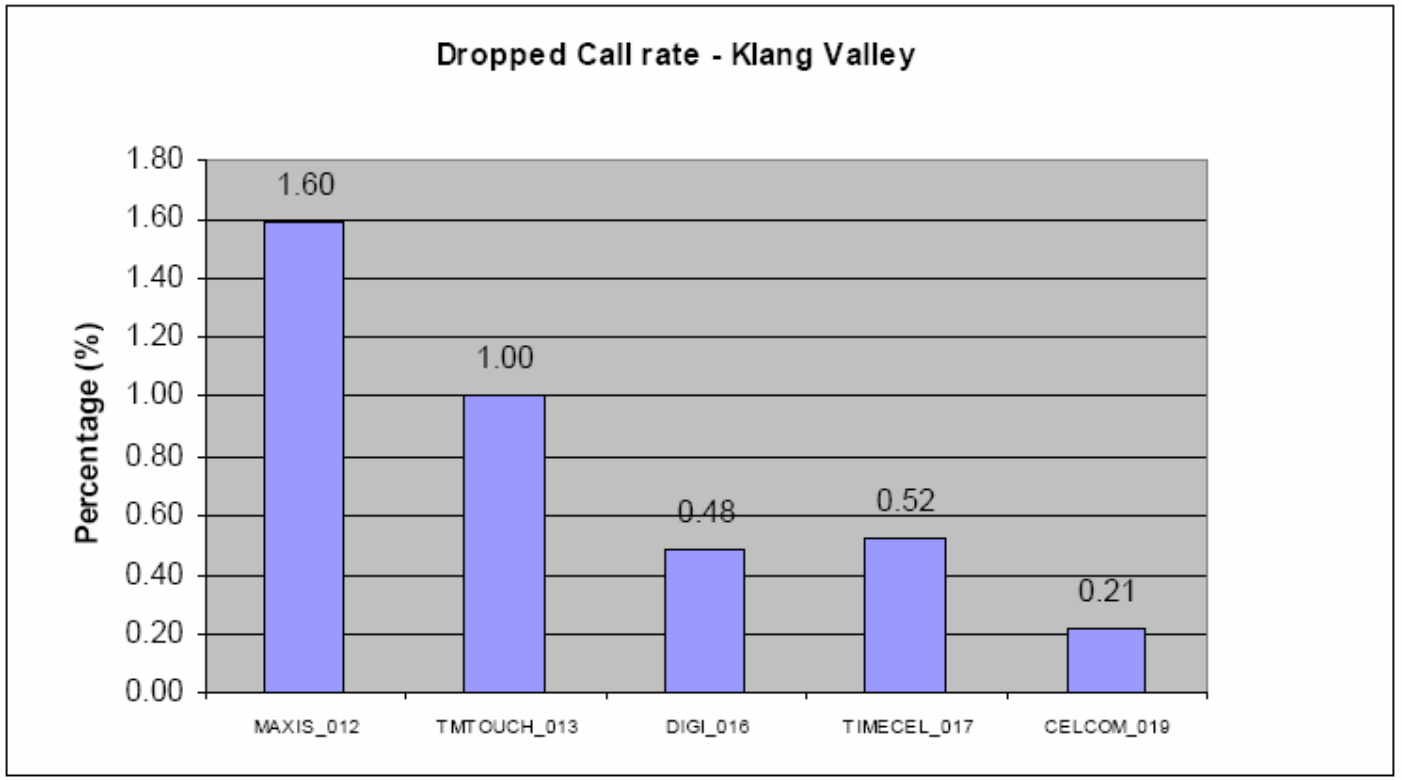
Performance Monitoring & Quality of Service

Quality of Service Example



http://www.mcmc.gov.my/consumer/pdf/EESAT2002.pdf

- Regulators specify QoS indicators and benchmarks
- These benchmarks are reported periodically by service providers
- Regulatory compliance monitored

Coverage & Universal Service Indicators

- Coverage obligated in licenses
  - No. of villages / islands to be covered
  - No. of districts covered
  - Percentage of population covered
- Availability of Services
  - Number of towns / cities having broadband services
  - Number of villages / rural areas having payphones

Use of interconnection rates for benchmarking

Often regulators use benchmarking to fix the interconnection rates in the country as use of cost models to do the same is constrained by

- High cost of modeling
- Absence of data
- Lack of time

Regulatory Statistics for decision making

Benchmarking & best practices (Examples)

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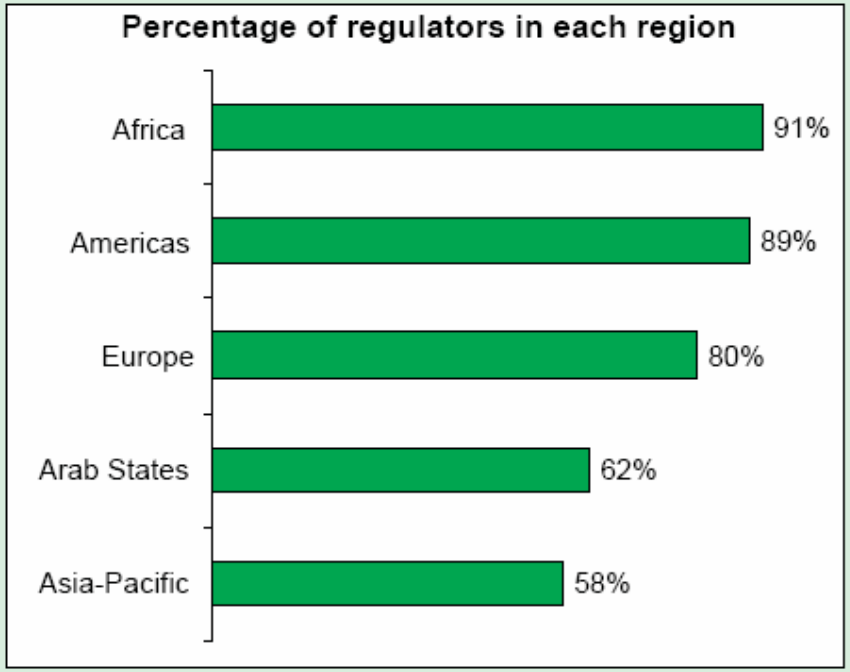
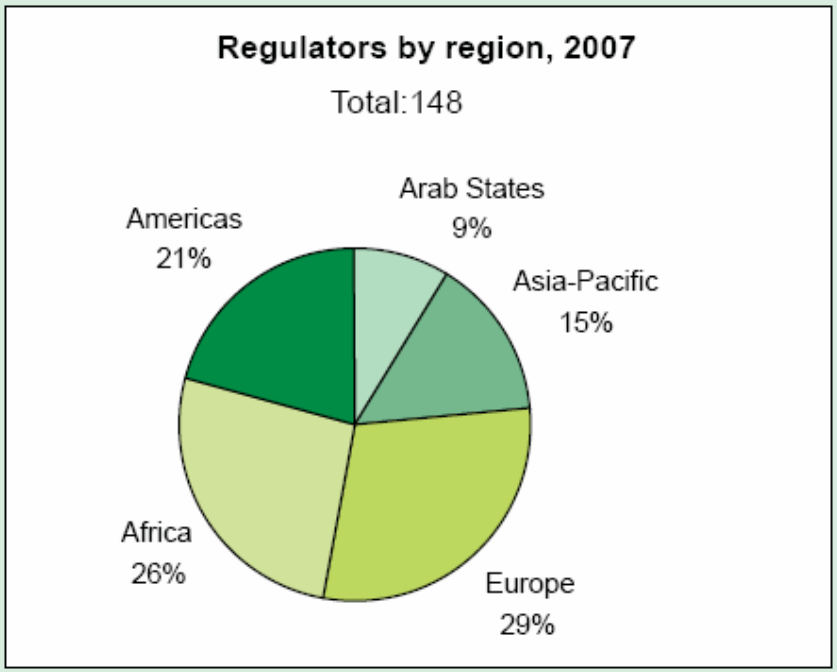
Institutional Trends [1]



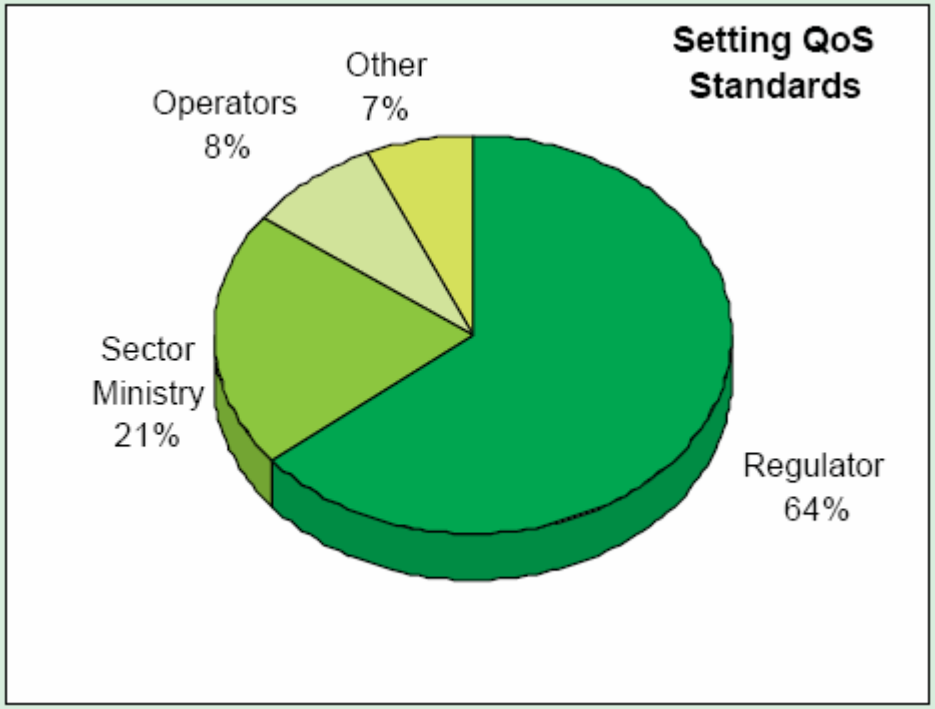


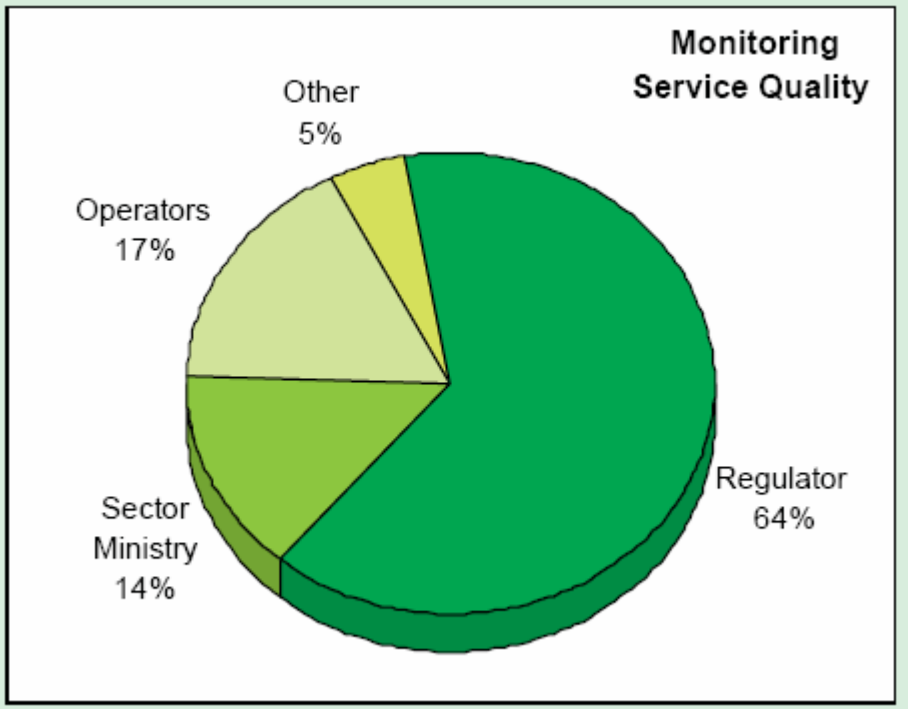
Source: ITU World Telecommunication Regulatory Database.

Examples of Converged and Multi-Sector Regulators

- **Converged Regulators: Australia, Austria, India, Malaysia**
- **Multi-sector Regulators: Costa Rica, Gambia, Germany**

Institutional Trends [2]: Who monitors and sets the Quality of Service?





Source: ITU World Telecommunication Regulatory Database

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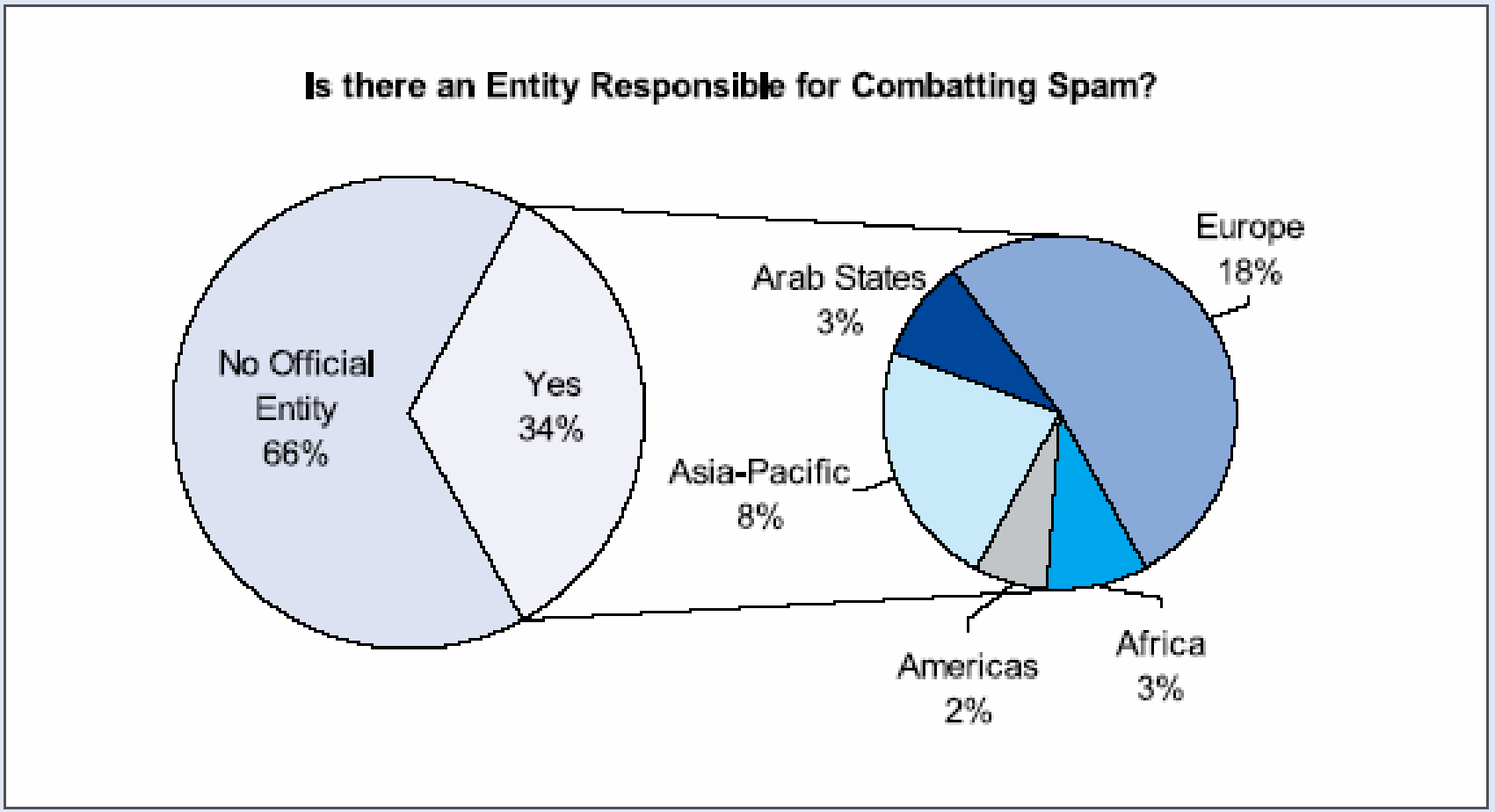
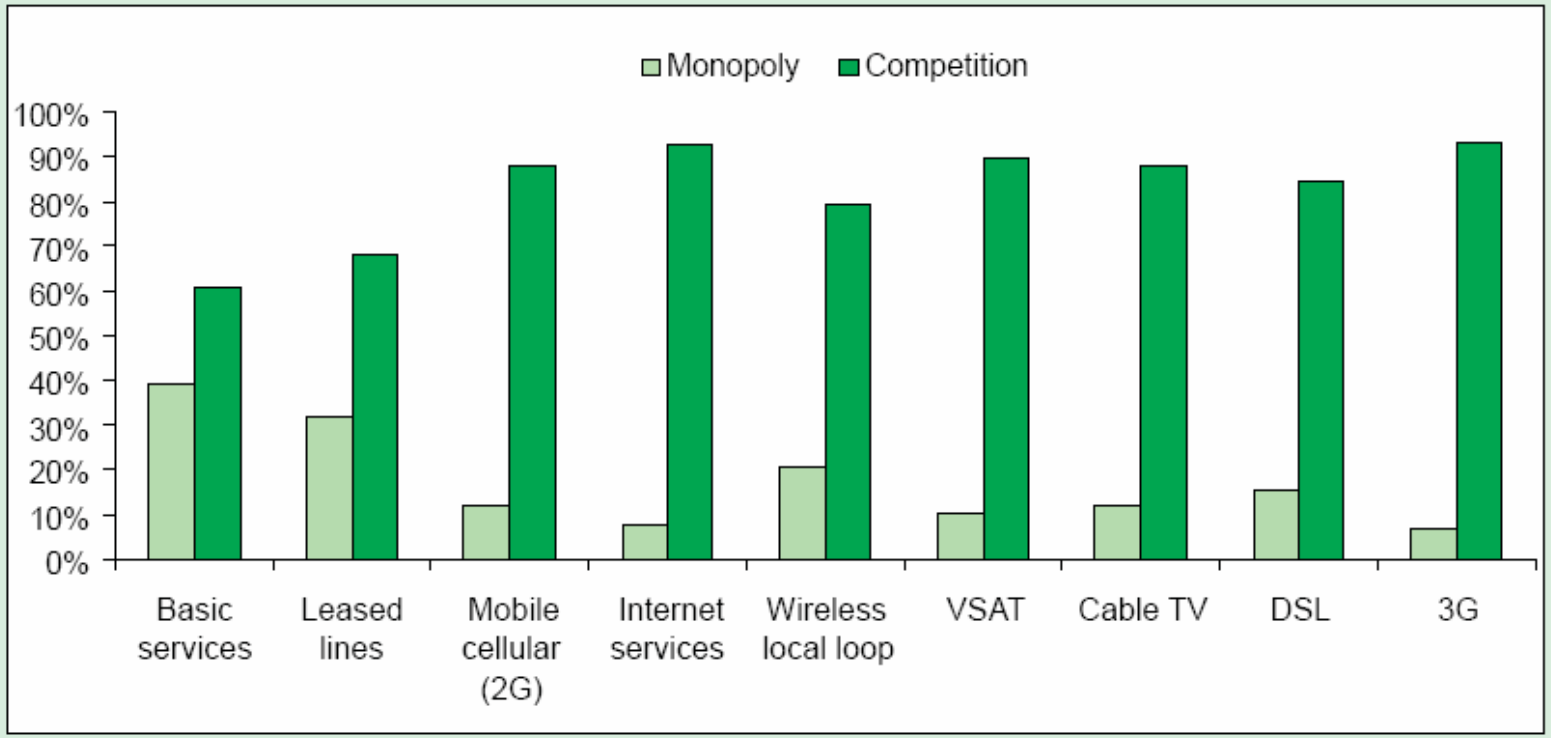
Spam Regulation



Source: ITU World Telecommunication Regulatory Database

Market entry: Is introducing competition a best practice?



Source: ITU World Telecommunication Regulatory Database.

- **Competition is authorized in more than 60% of the countries in Basic and leased line services**
- **Competition is authorized in more than 80% of the countries in Broadband and Mobile services**

Market entry: Deciding on market rules

Table 4.4: Licence Fees for 2G and Combined 2G/3G Licences

Selected countries

Country	*Population*	*Licensing methodology*	*Initial licence fee (USD) per licence*	*Number of licences offered*	*Type of licence awarded*	*Initial duration of licence*
2004						
Algeria	31.3 million	Auction	421 million	1	3rd GSM	15 years
Iran	65.5 million	Beauty contest	Not published	1	2nd GSM	15 years
Jordan	5.3 million	Beauty contest (fixed fee)	6.6 million	1	3rd mobile[1]	15 years
Oman	2.8 million	Beauty contest with fee component	62.4 million	1	2nd mobile[1]	15 years
Pakistan	159.2 million	Auction	291 million	2	2nd and 3rd GSM	15 years
Saudi Arabia	23.1 million	Beauty contest	3.25 billion	1	GSM	25 years

Source: *Sources:* ITU World Telecommunication Regulatory Database; various regulator websites; Cellular News; press reports; EMC database.

- **International experiences and best practices often used by regulators to set market rules**

New technologies [regulatory practices]

Source: ITU Telecommunication Regulatory Database and ITU, The state of VoIP worldwide 2006, at www.itu.int/osg/spu/ni/voice/papers/FoV-VoIP-Biggs-Draft.pdf

Challenges

- Variation in regulatory requirements pose challenge for data agencies
- Availability of data through commercial agencies often unaffordable for developing countries
- Variation in measurement procedure and periods at local level
- Variation in local scenario pose difficulties in benchmarking using regulatory data

Conclusion

- ICT Statistics is a very important tool for regulatory decision making
- Key use of ICT statistics by Regulators in
  - Broad industry trend analysis
  - Laying down and monitoring compliance of Regulations
  - International Benchmarking and Best practices
- Some statistics are collected and used at national level while others require international collaboration
- UN Agencies have the responsibility to make available ICT Statistics for regulatory use at affordable price.
- Key challenges necessitate consistency in collection and dissemination


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Table of Contents
Table of Practice Notes
Table of Reference Documents
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
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.
Availability: January 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
Internet

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Publication Research Resource

Regulatory Trend Publication

http://www.itu.int/pub/D-REG-TTR.9-2007

ICT EYE One Stop Shop

http://www.itu.int/ITU-D/icteye/Default.aspx

Spectrum fee

Spectrum Fees Databank

http://www.itu.int/ITU-D/study_groups/SGP_2002-2006/SF-Database/index.asp

WTDR

http://www.itu.int/publ/D-IND-WTDR-2006/en

Various Handbooks on topical issues covering ICT Statistics and Regulation

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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

Thank You

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