

# **Termination charges for Traffic Delivered over Mobile and fixed Networks**

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Councillor,**

**Seminar in Prague,  
9 – 11 September 2003**



*Note: The views expressed in this presentation are those of the author and do not necessarily reflect the opinions of the ITU or its membership.*



## ***Agenda***

- **What is ITU-T Study Group 3?**
  - ⇒ **What is SG3 doing**
  - ⇒ **Main activities of SG3**
- **What is Termination charge**
  - ⇒ **Difference between revenue sharing and Termination**
- **Termination charges for fixed network**
- **Termination charges for Mobile Service**
- **What are the concerns of administrations and how do they react?**



## ***International Telecommunication Union***

- **In the ITU there are 3 Sectors (Radiocommunication, Telecommunication and Development) + General Secretariat**
- **In the ITU-T, there are 14 Study Groups and TSB to support the works of SGs**
- **SG3 is in charge of developing tariff principles, including telecommunication related economic and policy related issues**
- **SG3 has 4 Questions to study, has two Working Parties and several Rapporteur Groups**



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## ITU-T Activities

ITU-T Study Group 3 (Study Period 2001 - 2004)

-- Select an ITU-T Activity --

**Tariff and accounting principles including related telecommunication economic and policy issues**

Contact for Study Group 3: [tsbsg3@itu.int](mailto:tsbsg3@itu.int)

### Information

- [Area of Responsibility](#)
- [Study Group Structure](#)
- [Study Group Management Team](#)
- [List of Rapporteurs](#)
- [List of Questions under Study](#)
- [Standardization Areas and Domains](#)
- [Work Programme](#)
- [Last meeting results concerning Recommendations](#)

### Meeting Information

- [Schedule of Meetings](#)
- [Meeting Sessions Room Allocation](#)
- [Rapporteur Meetings](#)
- [Hotel booking at preferential ITU rates](#)

### Special Projects and Issues

- [Position of countries on Call Back](#)

[TIES](#) account required

### Documents

- [Circulars related to SG 3](#)
- [Collective Letters](#)
- [Contributions](#)
- [Delayed Contributions](#)
- [Reports](#)

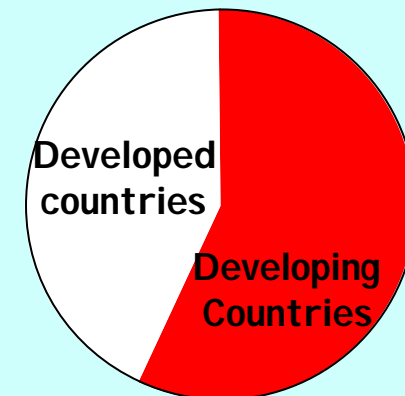
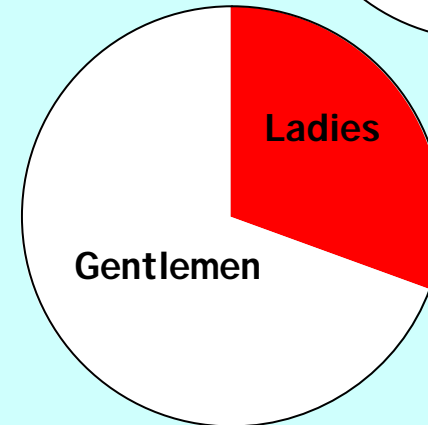
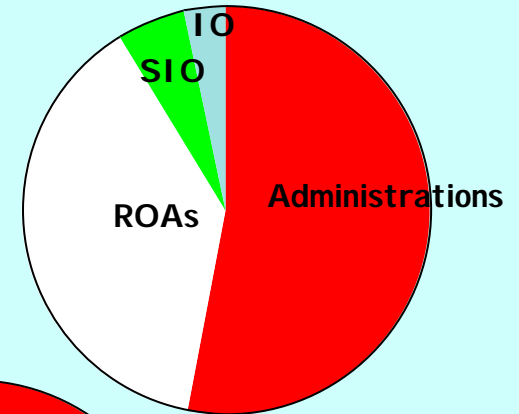
### Documents by meetings

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- Last Meeting: Geneva, 16-20 June 2003  
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## ***SG3 is unique***

- **Because of its composition**

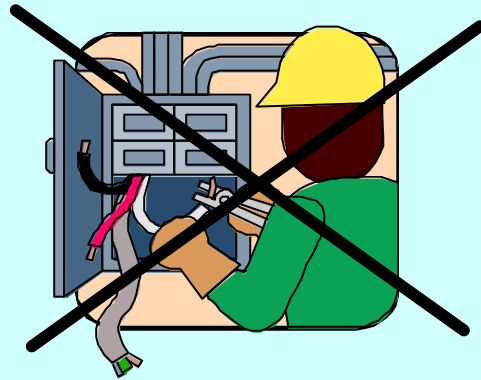




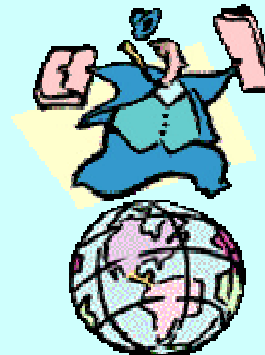
*Termination charge / mobile – fixed networks 6*

## ***Dealing purely with non-technical standards and ...***

- **Tariff/regulatory/Policy related issues**



- **There are 4 Regional Tariff Groups**





## ***Main study items***

- **Accounting rate reform**
  - ⇒ **Transitional arrangements**
  - ⇒ **Action to facilitate negotiations**
  - ⇒ **Network externalities**
- **Mobile termination charge**
  - ⇒ **Cost elements**
  - ⇒ **Level of termination charges**
- **International Internet Connectivity**
  - ⇒ **Implementation of Recommendation D.50**
  - ⇒ **Improving connectivity in LDCs**
- **Other studies**
  - ⇒ **International Telecommunication Regulations**



## ***So, what's the problem?***

- **Competition is everywhere but..**
  - ⇒ **Incumbents, New-comers and Regulators are not ready**
- **Accounting rates are the traditional way of sharing revenues from int'l services**
  - ⇒ **BUT, creates incentives among recipient countries to sustain rates at high level**
  - ⇒ **Accounting rate system not well-adapted to competitive market environment**
- **Strong pressure to move towards a cost-oriented system**
  - ⇒ **BUT, a cost-oriented system would be asymmetric**
  - ⇒ **US want cost-oriented but reject asymmetric charges for call termination**
- **How to calculate cost ?**
  - ⇒ **How interconnection charge should be determined**

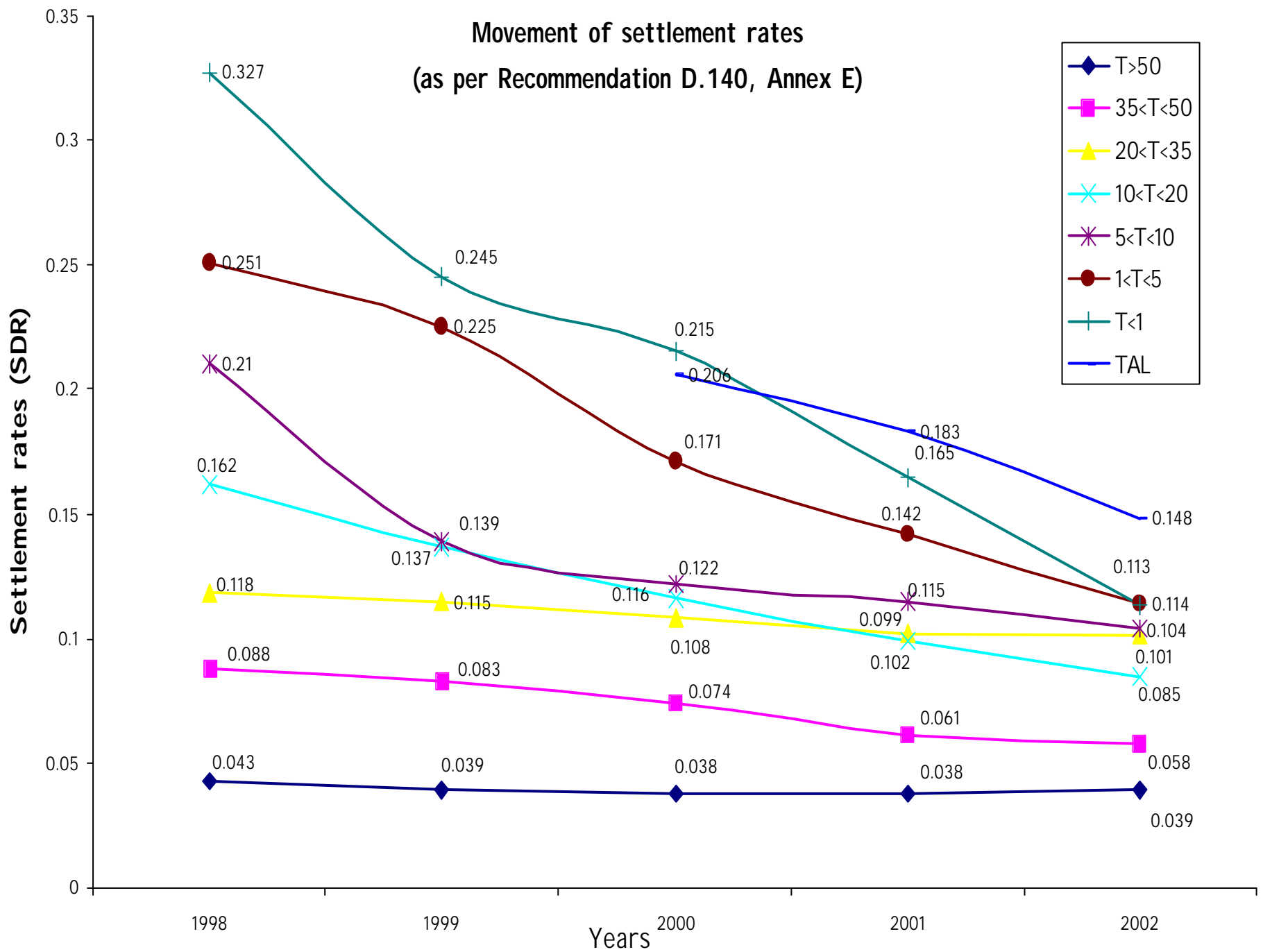




## ***Solutions & difficulties***

- **New Remuneration system (adopted)**
  - ⇒ **Termination charge system**
  - ⇒ **Settlement rate system**
  - ⇒ **Special arrangement**
- **Difficulty to quickly implement those systems**
  - ⇒ **Condition is to reach cost-oriented rate, but**
  - ⇒ **No cost data or model for some administrations ? SG3 developed principles and TAF, TAS, TAL cost models**
- **Transitional arrangements (adopted at WTSA 2000)**
  - ⇒ **To facilitate staged reduction to cost based rate**
  - ⇒ **to avoid sudden fall of revenue (smooth transition)**
- **SG3 developed:**
  - ⇒ **Guidelines for negotiation**

**Movement of settlement rates**  
 (as per Recommendation D.140, Annex E)



# **Annex E to Recommendation D.140**

## **“indicative target rates” by Teledensity (T)**

### **Band, in SDR (and US cents) per minute.**

1  
1

T<1	1<T<5	5<T<10	10<T<20	20<T<35	35<T<50	T>50
<b>0.327</b> SDR	<b>0.251</b> SDR	<b>0.210</b> SDR	<b>0.162</b> SDR	<b>0.118</b> SDR	<b>0.088</b> SDR	<b>0.043</b> SDR
43.7¢ <small>(end 2001)</small>	33.5¢ <small>(end 2001)</small>	28.0¢ <small>(end 2001)</small>	21.6¢ <small>(end 2001)</small>	15.8¢ <small>end 2001)</small>	11.8¢ <small>(end 2001)</small>	5.7¢ <small>(end 2001)</small>
<b>Low income</b> FCC : 23 ¢ <small>(January 2002/2003)</small>		<b>Lower middle</b> FCC : 19 ¢ <small>(January 2001)</small>		<b>Upper middle</b> 19 ¢ (J.2000)		<b>High income</b> FCC : 15 ¢ <small>(January 1999)</small>

*Note: The correspondence between teledensity band and income group shown in the bottom row is intended to be approximate, not precise. Source: ITU-T SG3 Report. 1 SDR = US\$1.39.*

# Guidelines to facilitate the negotiation

The following non-binding guidelines could be applied when negotiating accounting rates and accounting rates share in the international service:

1 Each party should ensure that; i.e., all information to be given to the other party should be credible in order to lead the negotiations into right direction.

2 The parties should negotiate freely and make agreements voluntary, any kind of coercion should be avoided.

Each party should act constructively, any offer, proposal, action, etc. should be directed towards reaching an agreement. Complex concepts should be simplified as much as possible.

4 Each party should act time-saving, any delay should be avoided.

5 Regular re-negotiations and future amendments should be possible.

6 Until such time as an appropriate dispute settlement arrangement may be approved by the ITU with respect to accounting rates, both parties should have the possibility to consult a person or institution for mediation.

## ***Addition to Recommendation D.140***

- 1 accounting rates for international telephone services should be cost-orientated and should take into account relevant cost trends;**
- 2 each Administration should apply the above principle to all relations on a non-discriminatory basis; *Accordingly, international calls should not be treated any less favorably than comparable national calls.***

***Alternative proposal from Vietnam:***

***Accordingly, under normal circumstances (where tariff rebalancing has been effectively achieved) international calls should be treated any less....***



## ***Termination charge***

- **Destination operator (or Government) set the charge**
- **Charge should be established based on costs**
- **Termination Charge includes**
  - ⇒ **International exchange**
  - ⇒ **National extension, including local loop**
  - ⇒ **And if appropriate, international circuit**
  - ⇒ **Other costs imposed on carriers by the national regulation**
- **Those components should be separately identified (Unbundled)**
- **Charge applies to all traffic from any source**
- **However if significant variation in costs, charge may vary (volume discount)**
- **Termination charge may be introduced on bilateral agreement basis**

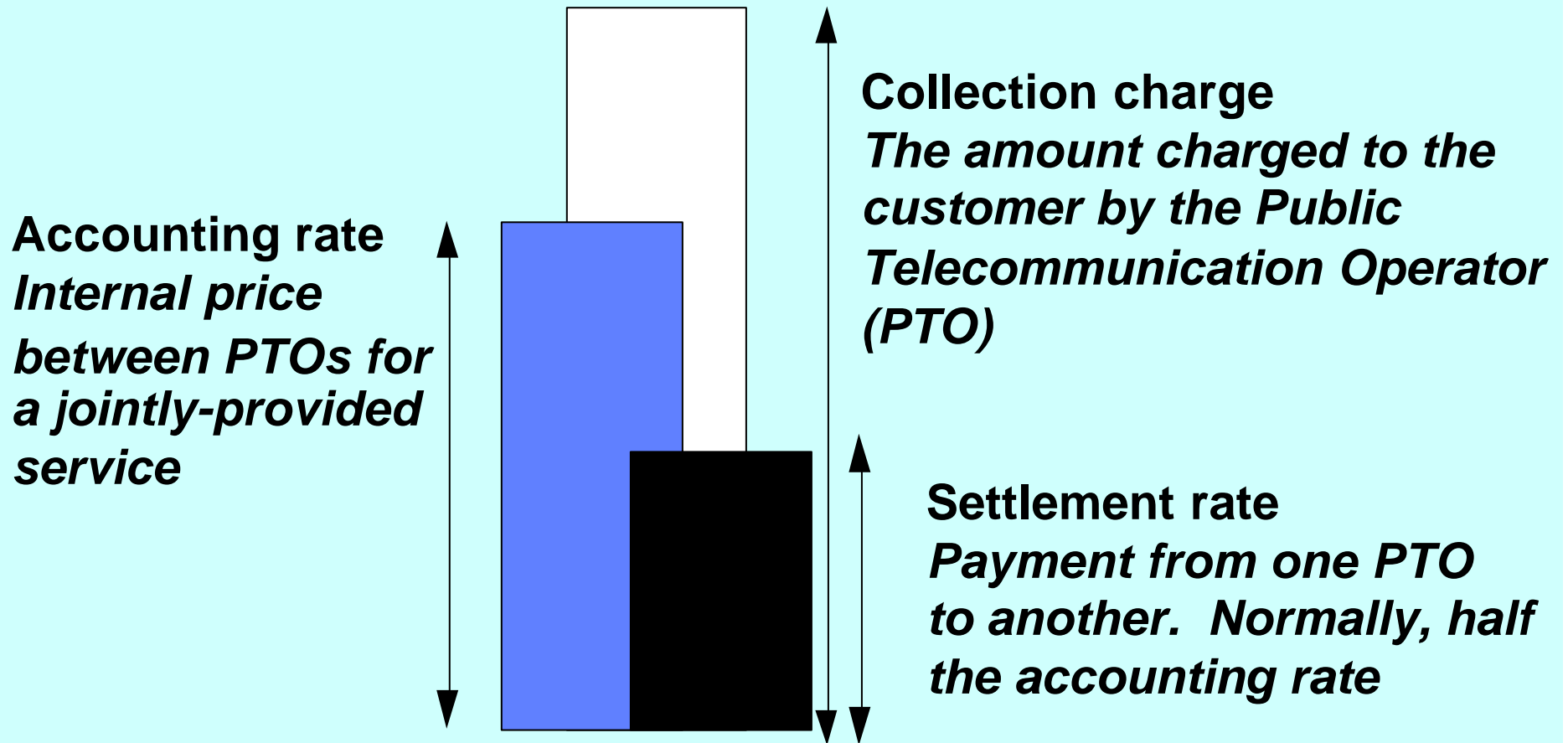


## ***What is revenue-sharing?***

**“An agreement to divide the revenues gained from the end-to-end provision of a jointly-provided service between the parties involved in providing that service, according to a negotiated set of percentage shares.**

**Revenue-shares may vary according to the volume or direction of traffic”**

## ***Revenue-sharing in international networks: Accounting rates***







***Sender-keeps-all: A special kind of revenue-sharing***

**Sender-keeps-all (also called “bill and keep”) implies that each party in a jointly-provided service keeps the revenue they collect:**

- ⇒ **e.g., in mobile networks under “receiving party pays”, both call origination and call termination are charged separately**
- ⇒ **e.g., in international networks, without transit, where traffic is more or less in balance, neither side will pay settlement fees**
- ⇒ **e.g., in Internet backbone networks, “peering” of traffic between domains of approximately equal size and similar usage pattern**



***What is Termination charge and Interconnection charge?***

**“A termination charge is levied by a facilities-based services provider in exchange for use of its facilities, for instance to terminate a call.**

**Termination charge => Interconnection  
between two Networks**

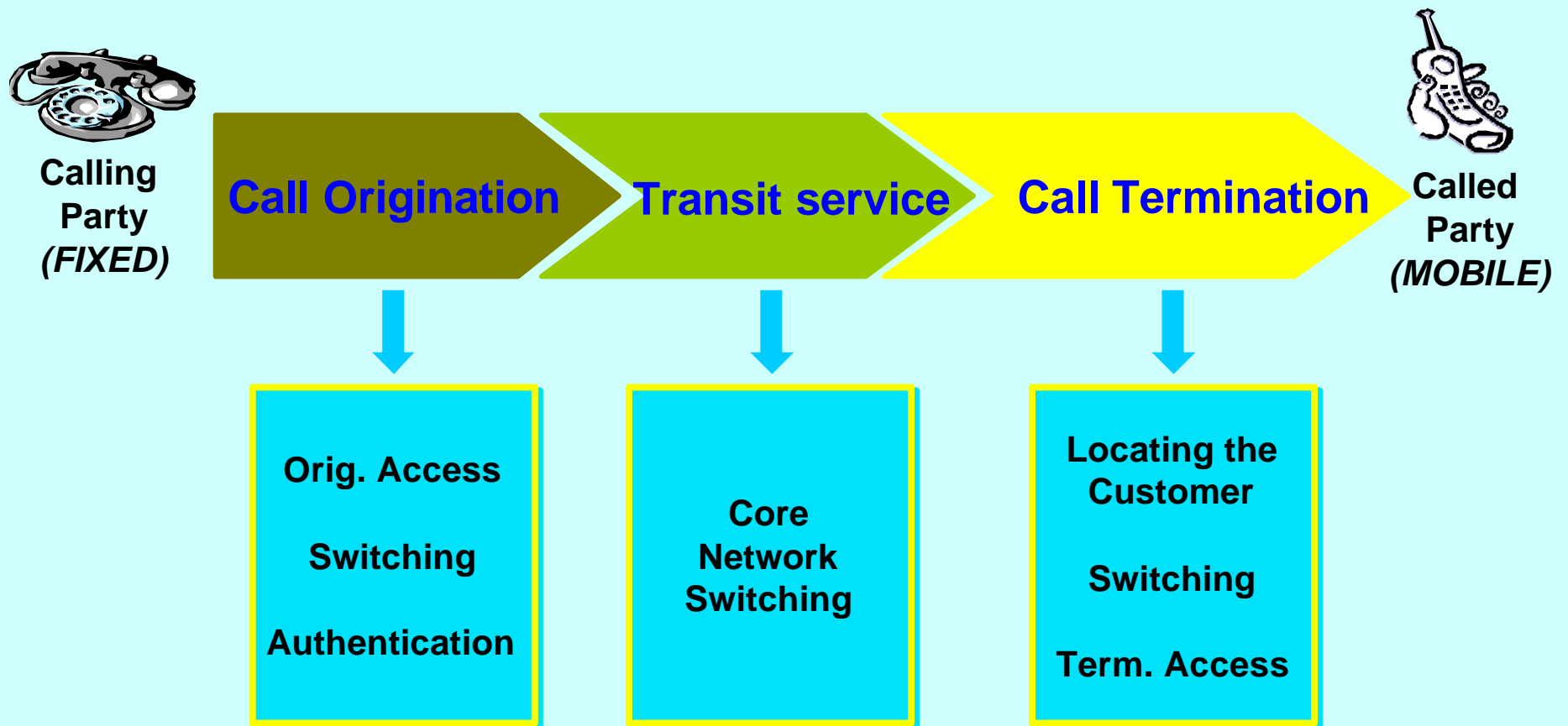
**Interconnection and termination charge are usually charged on a per-minute basis, but can also be charged according to use of network capacity”**



## ***Interconnection between networks of same type (Europe)***

- **Old regulatory framework**
  - Many different sector-specific directives, notably Interconnection Directive (97/33/EC)
  - Two parts: Recommendations on Interconnection pricing and accounting separation
- **Methodology for identifying “best practice” pricing**
  - Lowest 20% of published interconnection offers in 15 EU Member States at local (0.9 €/100), single transit (1.5 €/100) and double transit (1.8 €/100)
- **New technologically-neutral regulatory framework**
  - Access to, and interconnection of, electronic communications networks and associated facilities
  - Reference Interconnection Offers (RIO) must be published by all carriers with significant market power

# ***Interconnection between different types of network (e.g. fixed-to-mobile)***



Source: Adapted from ECTA.



***Revenue-sharing and interconnect:  
What's the difference?***

**Revenue-sharing**

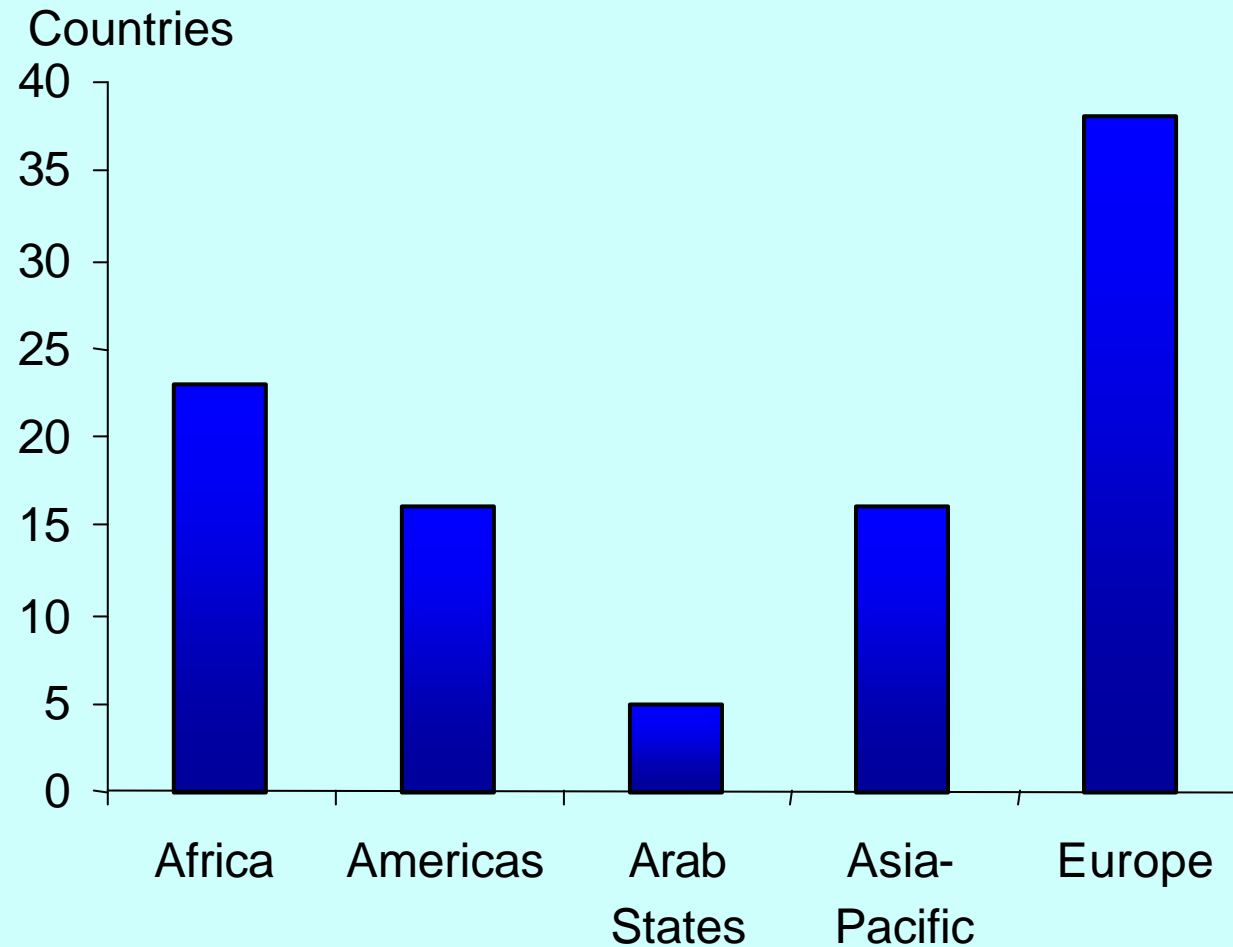
- Based on a division of total revenue
- Unrelated to underlying costs
- Rates are negotiated bilaterally and rarely regulated
- Rates cannot be compared over time or between countries

**Interconnection**

- Based on a per-minute charge
- Directly related to cost of facilities used
- Charges are set by operator, within a regulatory framework
- Rates can be benchmarked, over time and between countries



## Countries with an Interconnection regulatory framework, by region



*Source: ITU Telecommunications Regulatory Database, 2001.*



## ***What are the advantages?***

### **Revenue-sharing**

- **Relatively easy to understand**
- **Relatively easy to negotiate**
- **Relatively stable**
- **Some benefits to all parties**
- **Can be used for franchise agreements (e.g., in Thailand)**
- **Symmetrical**

### **Interconnection**

- **Transparent (if rates are published)**
- **Non-discriminatory (if rates applied equally)**
- **Directly cost-oriented**
- **Easy to implement**
- **Easy to compare between countries**
- **Flexible**
- **Puts downward pressure on prices**



## ***What are the disadvantages?***

### **Revenue-sharing**

- Not transparent
- Discriminatory
- Not cost-oriented
- Favours the “stronger player” in negotiations
- Can’t be benchmarked
- Leads to disputes over traffic/revenue
- No downward pressure on prices

### **Interconnection**

- May lead to disputes over:
  - ⇒ setting rates
  - ⇒ points of interconnection
  - ⇒ underlying costs
- Not “reciprocal” or symmetrical
- Costs may be inflated (e.g. mobile call termination in Europe)

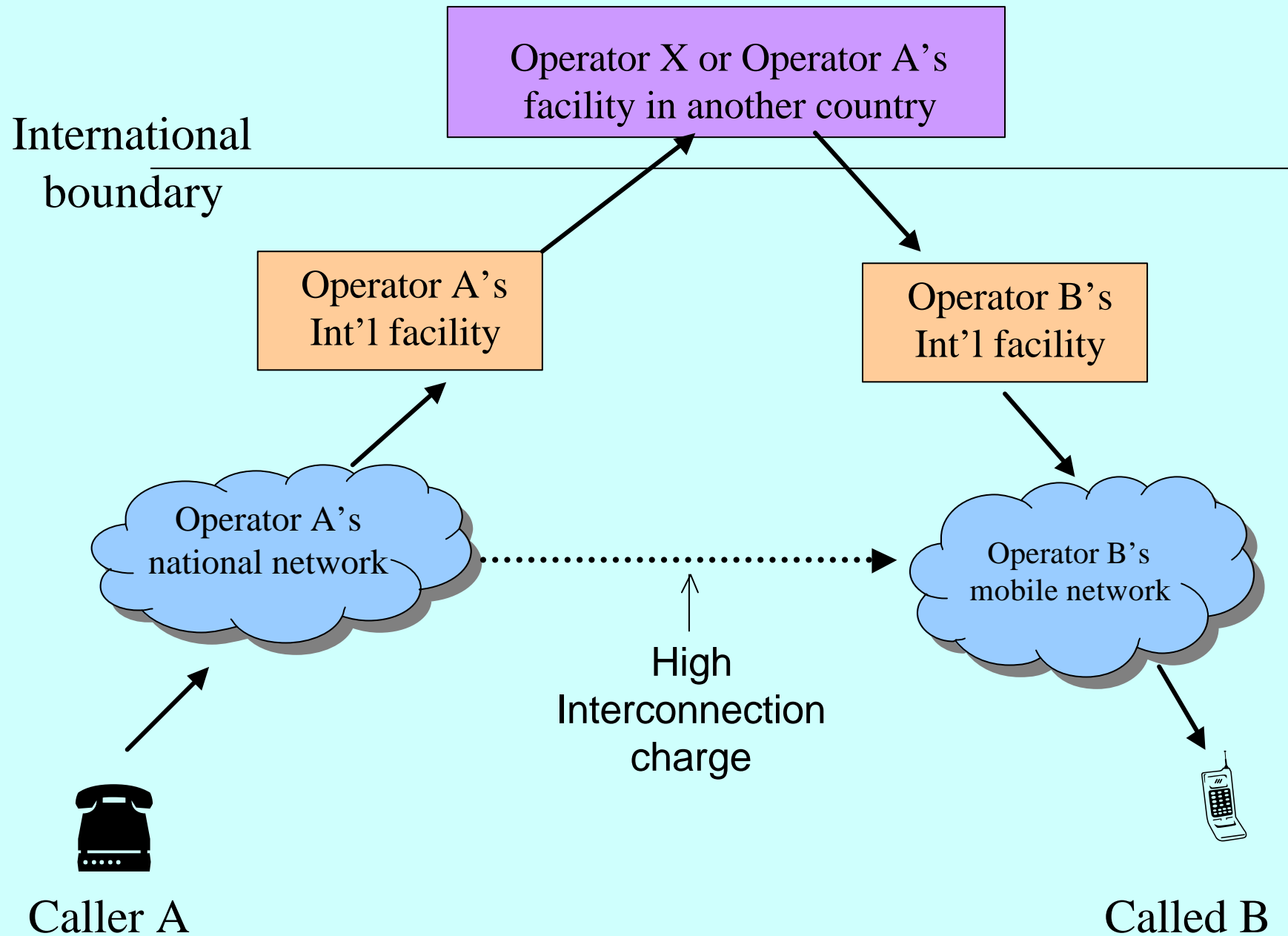




## ***International calls terminating on the mobile network***

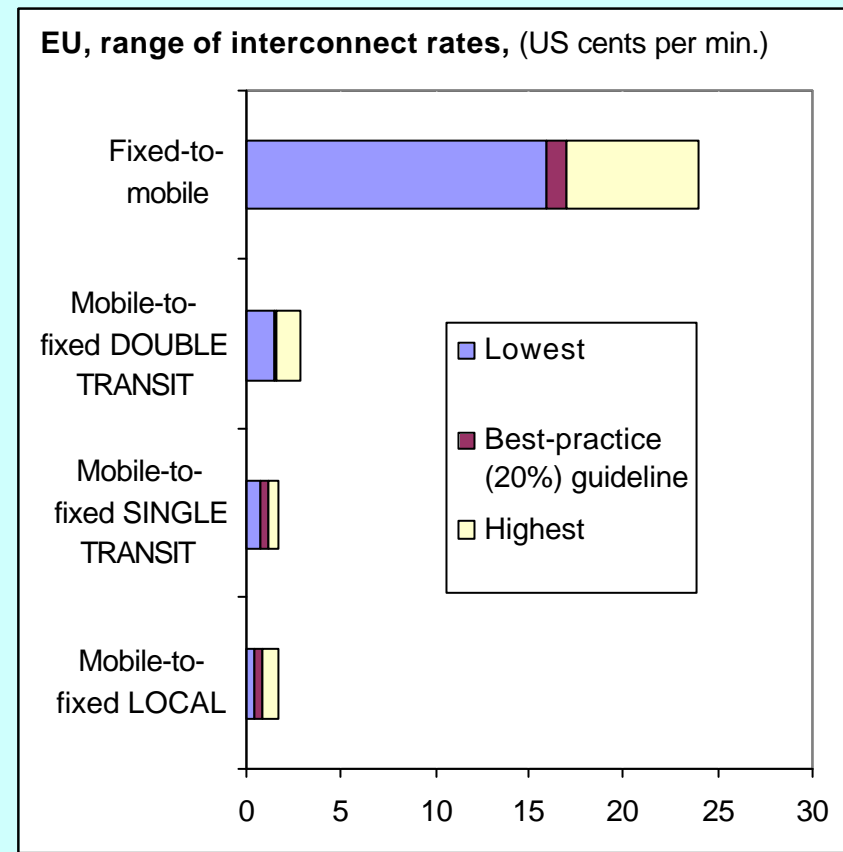
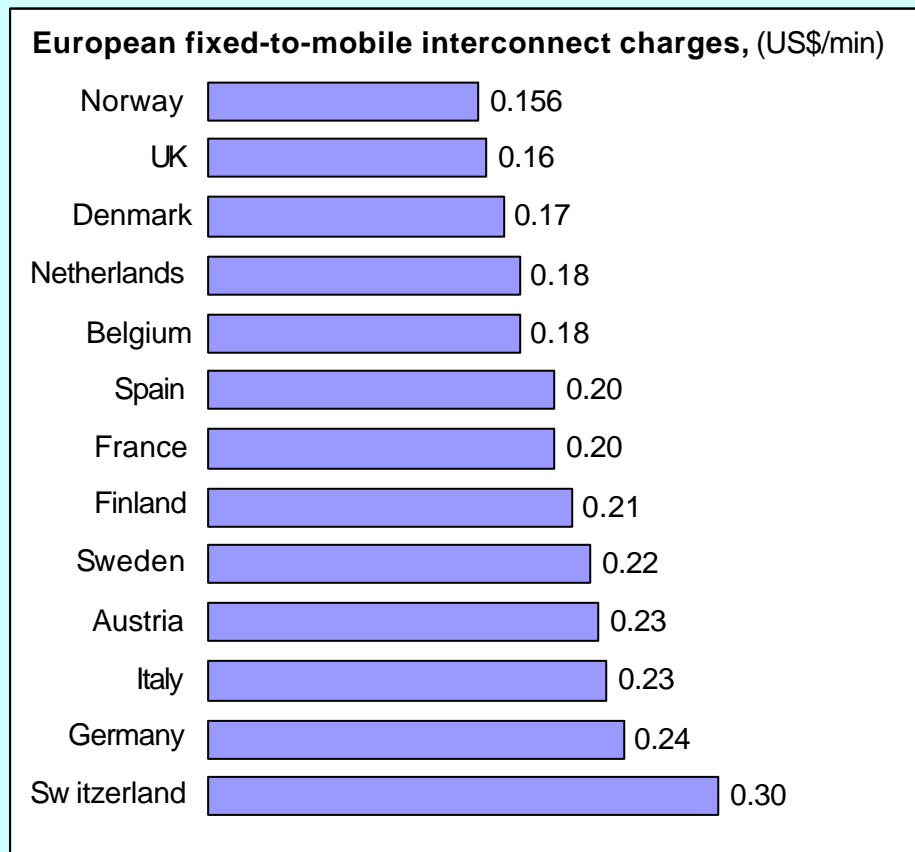
- **SG3 revised D.93 in 2000, allowing to negotiate**
  - ⇒ **a separate rate for traffic terminating on a mobile network**
  - ⇒ **however, this is by bilateral negotiation and when the rate is cost orientated**
  - ⇒ **The difference between the two rates should be as small as possible**
- **Many countries now request very high settlement rates (ten times)**
  - ⇒ **A review is now going on in SG3**

# Mobile tromboning (using accounting rate)



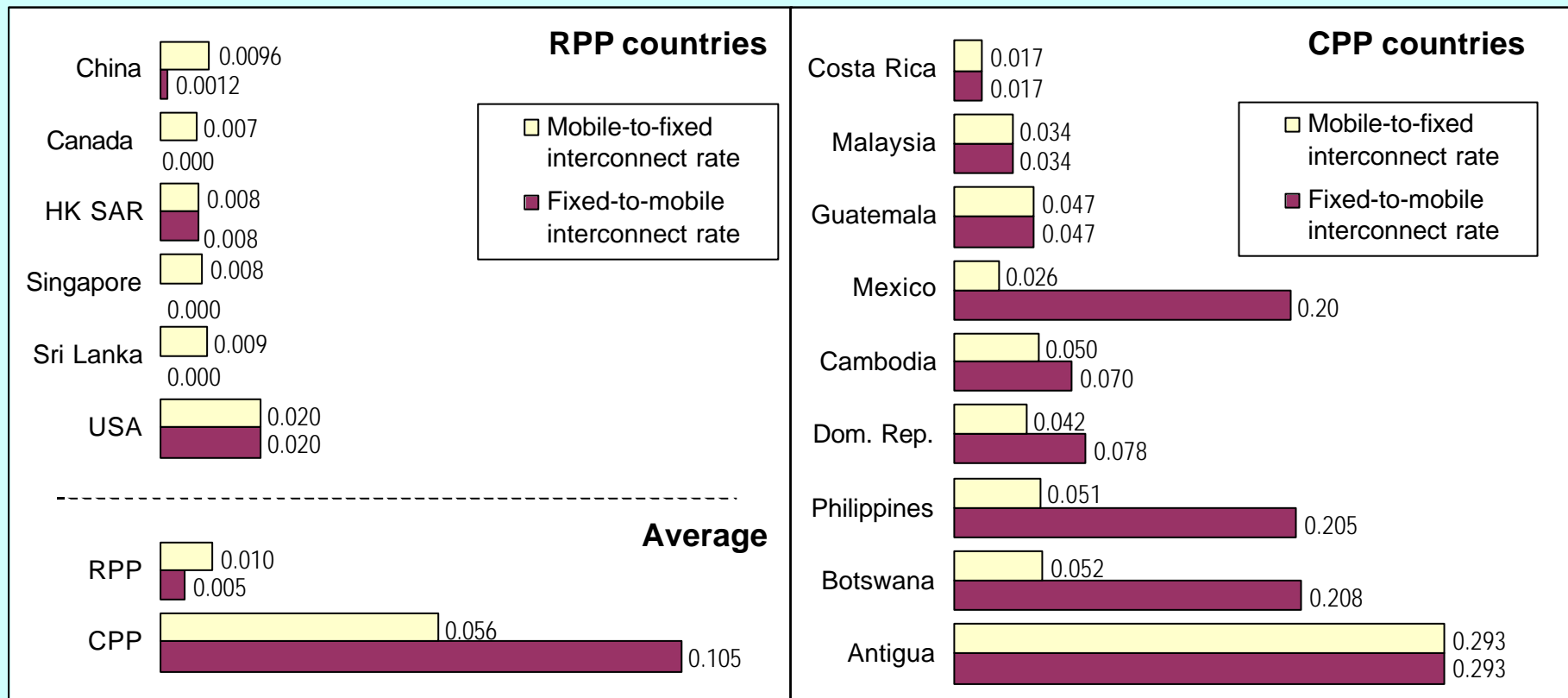
# Interconnection Rates in Selected European Countries

Calling Party Pays (CPP). In US \$ per minute.



# Interconnection rates in selected non-European countries

Calling Party Pays (CPP) vs. Receiving Party Pays (RPP). In US\$ per minute.



## Modification to Recommendation D.93

**3.2** The accounting rates for international traffic [originating or] terminating at a mobile station should be cost oriented and should be applied on a nondiscriminatory basis to all relations, and international calls should be treated no less favorably than comparable national calls.

**3.7** Where 3.3 b) applies but the difference between the two rates cannot objectively be justified on the basis of costs, the following could be considered:

a) The difference between the rates for calls terminating on fixed networks on the one hand and calls terminating on mobile networks on the other (arrived at by deducting the lower from the higher) should be no greater than the corresponding difference between the average of the available inter-operator rates for national fixed to fixed calls on the one hand and the average of available inter-operator rates for all national calls terminating on a mobile network on the other.

b) If such a comparison is not possible, the difference should be no greater than the corresponding difference between the average of retail rates for a national fixed to fixed call on the one hand and the average of retail rates for a national fixed to mobile call on the other hand.



## ***Network Externalities***

- **Universal Obligation Fund = Cross Subsidy**
  - ⇒ **Not recognized as cost**
- **Network extremity = increase utility of a network to users**
  - ⇒ **operators to provide incentives for users to join the network = this can be added to the usage price or to the monthly subscription fee**
- **the network externality effect has a solid basis in economic analysis and had successfully – at least with some regulators – been brought to bear by mobile operators on their case for higher termination rates**
  - ⇒ **Can be used by the developing countries to enhancing take-up and roll-out of the network**