Fixed-Mobile Interconnection Issues

Dr Tim Kelly, ITU

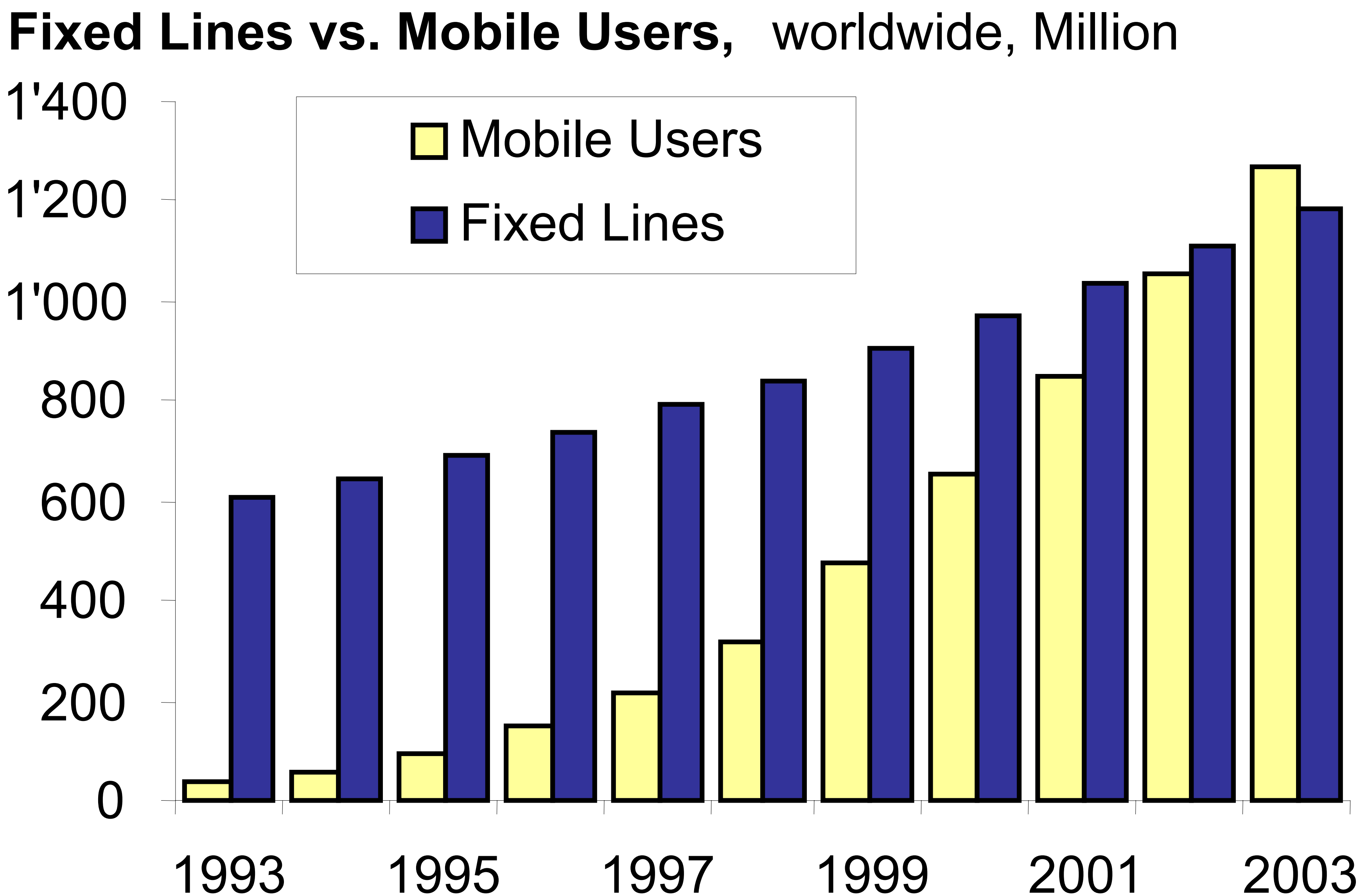
"Workshop on international settlement reform and the costing and pricing of telecom services", Hanoi, 11-13 December 2000

 Dr Kelly can be contacted by e-mail at Tim.Kelly@itu.int

Pricing mobile services: Agenda

- A Mobile Revolution
  - Worldwide and in the sub-region
- Pricing Mobile
  - Options
  - Price comparisons and trends
  - Price trends
  - Average Revenue Per User (ARPU)
- Fixed-Mobile Interconnect
- A Mobile Future

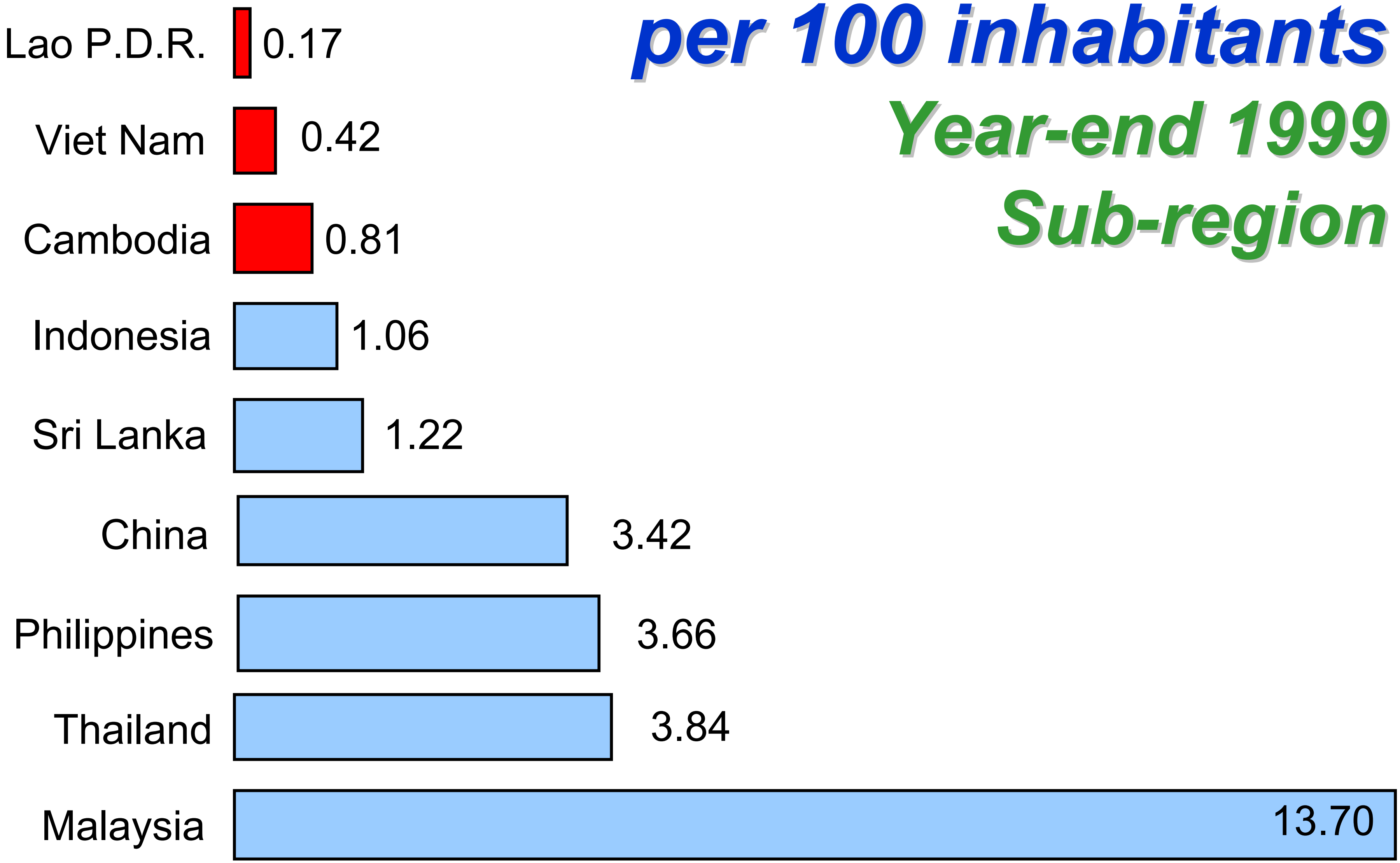
A Mobile Revolution



Source: ITU World Telecommunication Indicators Database.

Mobile subscribers per 100 inhabitants

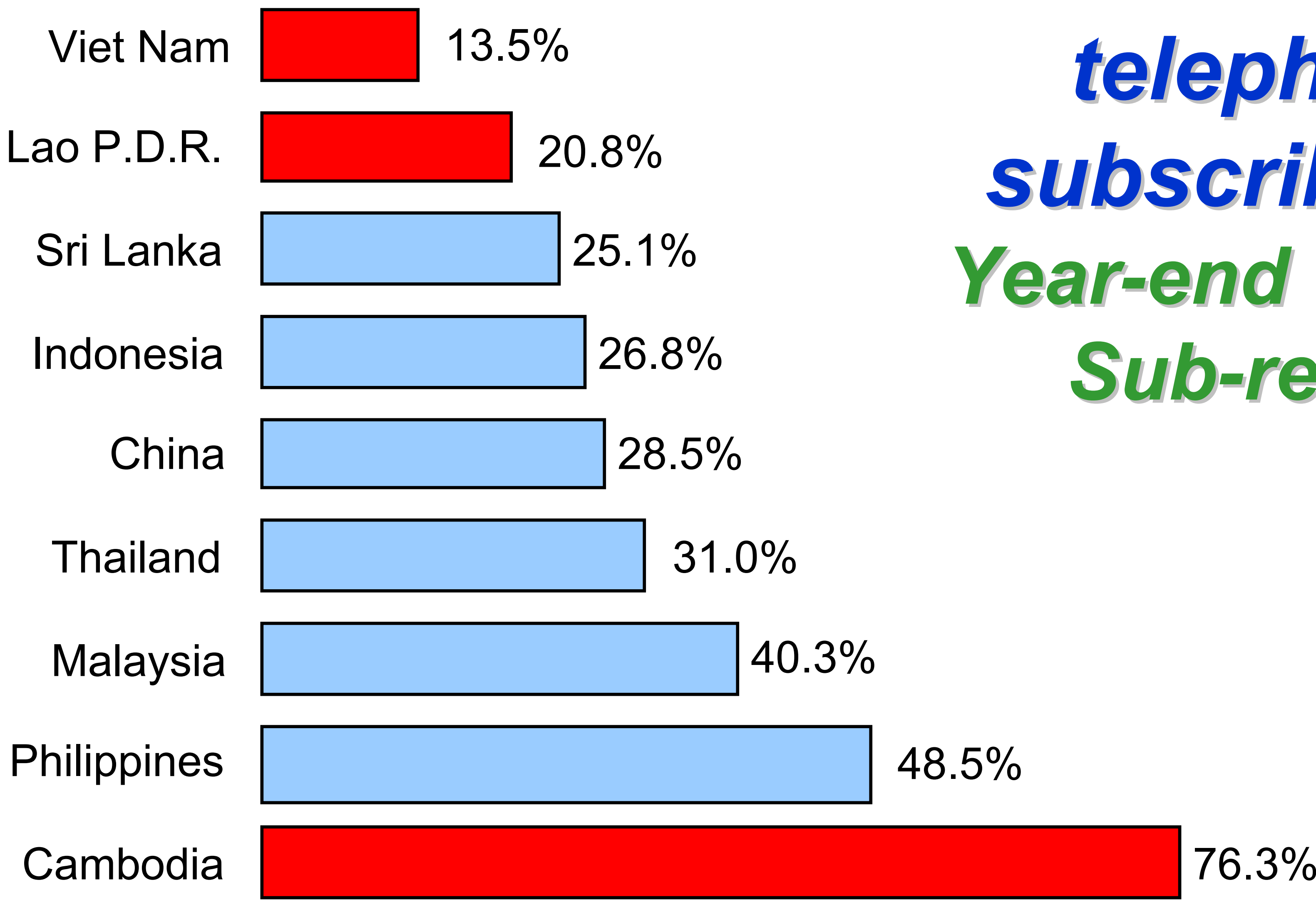
Year-end 1999
Sub-region



Source: ITU World Telecommunication Indicators Database.

Mobile subscribers as % of total telephone subscribers

Year-end 1999 Sub-region



Source: ITU World Telecommunication Indicators Database.

The secret of mobile success

- Why is mobile currently growing ten times faster (~55% p.a.) worldwide than fixed lines networks (~5.5% p.a.)?
- Why is the average mobile user much younger than the average fixed-line user?
- Why do users make calls using a mobilephone even when a fixed-line telephone is available and cheaper?
- What is the secret of the success of mobile?

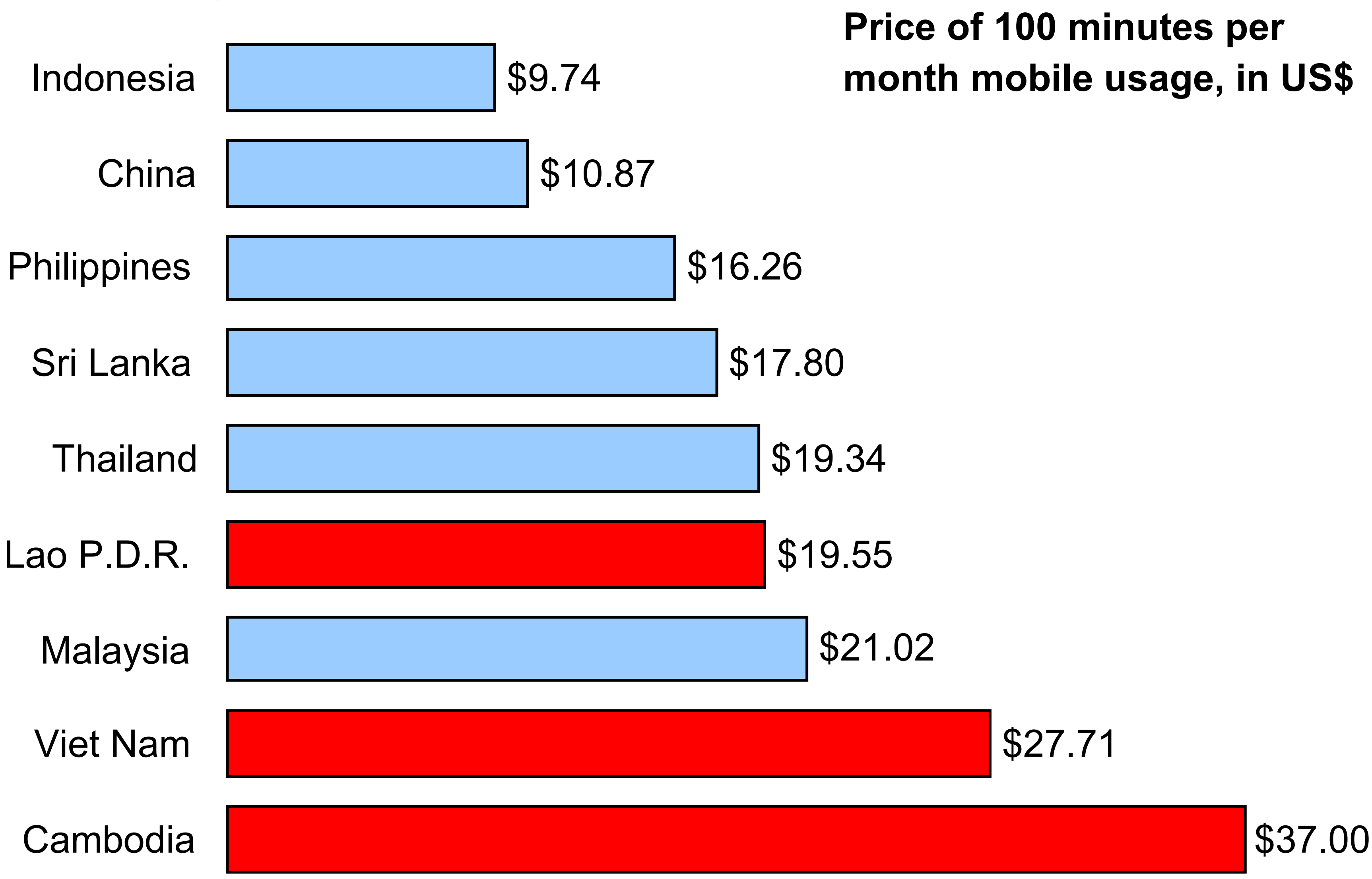
Price Options

A selection of price options
From Orange (UK)

Plan name	Monthly charge for single phone	Standard talk time included (per month)	Peak time call charges (per minute)	Off-peak call charges (per minute)
Chat 60	£17.63	60 off-peak minutes	40p	5p
Talk 30	£17.50	30 minutes	30p	5p
Talk 120	£25.00	120 minutes	24p	5p
Talk 400	£58.75	400 minutes	22p	5p
Talk 1300	£176.25	1’300 minutes	17p	5p
Talk 3700	£470.00	3’700 minutes	15p	5p
Talk 7500	£940.00	7’500 minutes	15p	5p
Everyday 50	50p/day	50 minutes/day	40p	1p

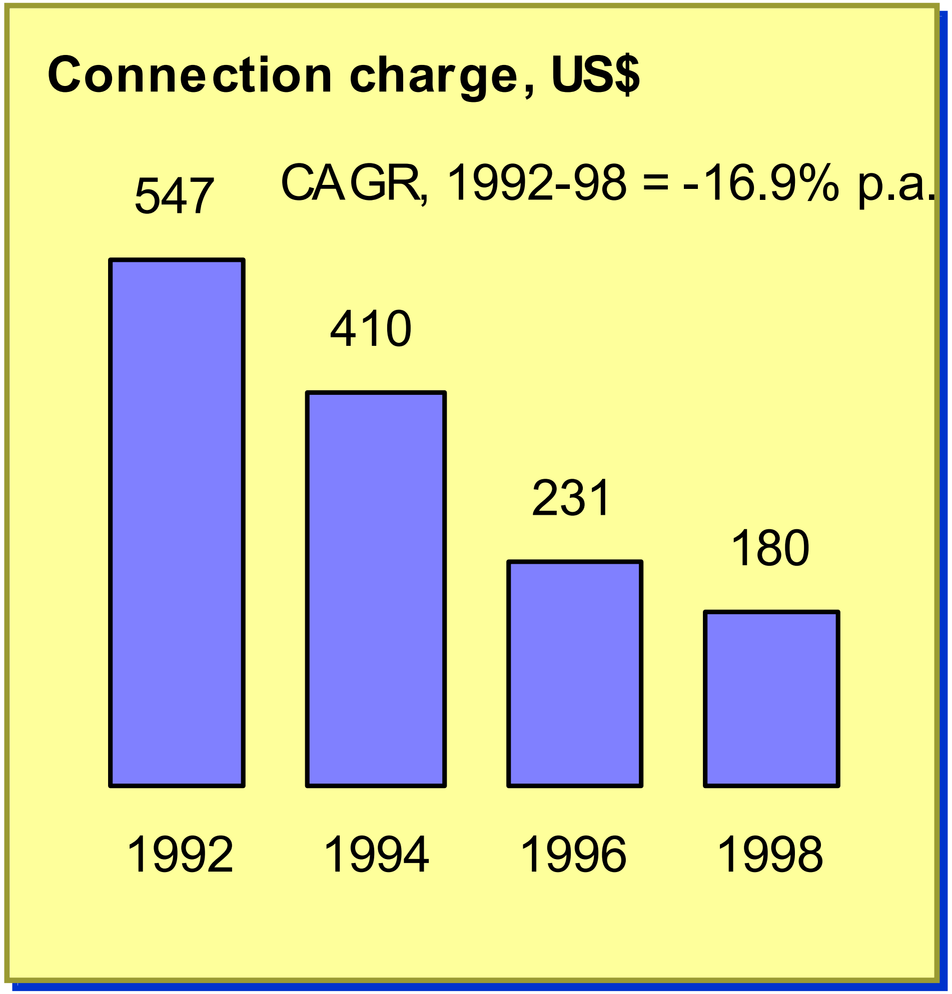
Source: http://www.uk.orange.net/kit/index.html.

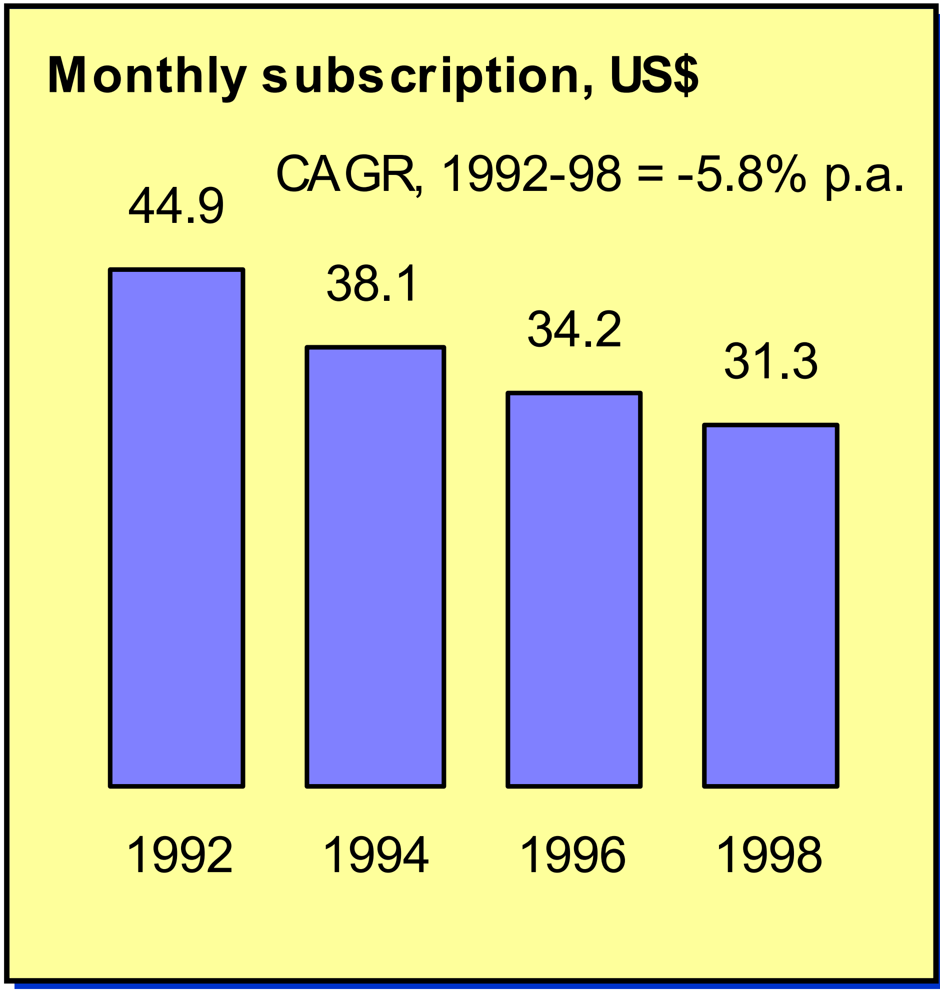
Pricing Mobile



Note: Price basket based on monthly subscription plus 50 mins peak and 50 mins off-peak use.
Source: ITU World Telecommunication Indicators Database

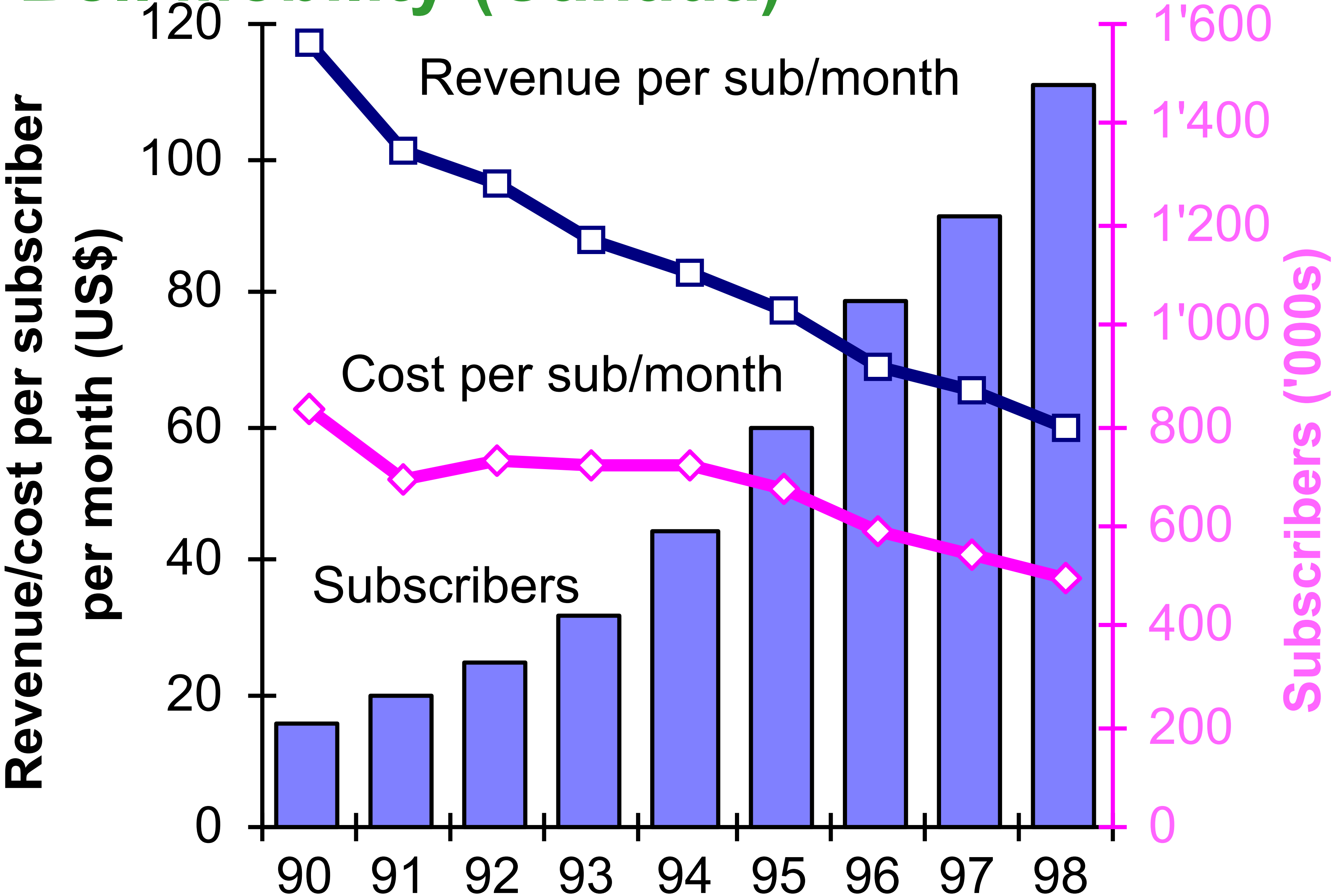
Declining prices for mobile access, global average, in US$, 1992-98





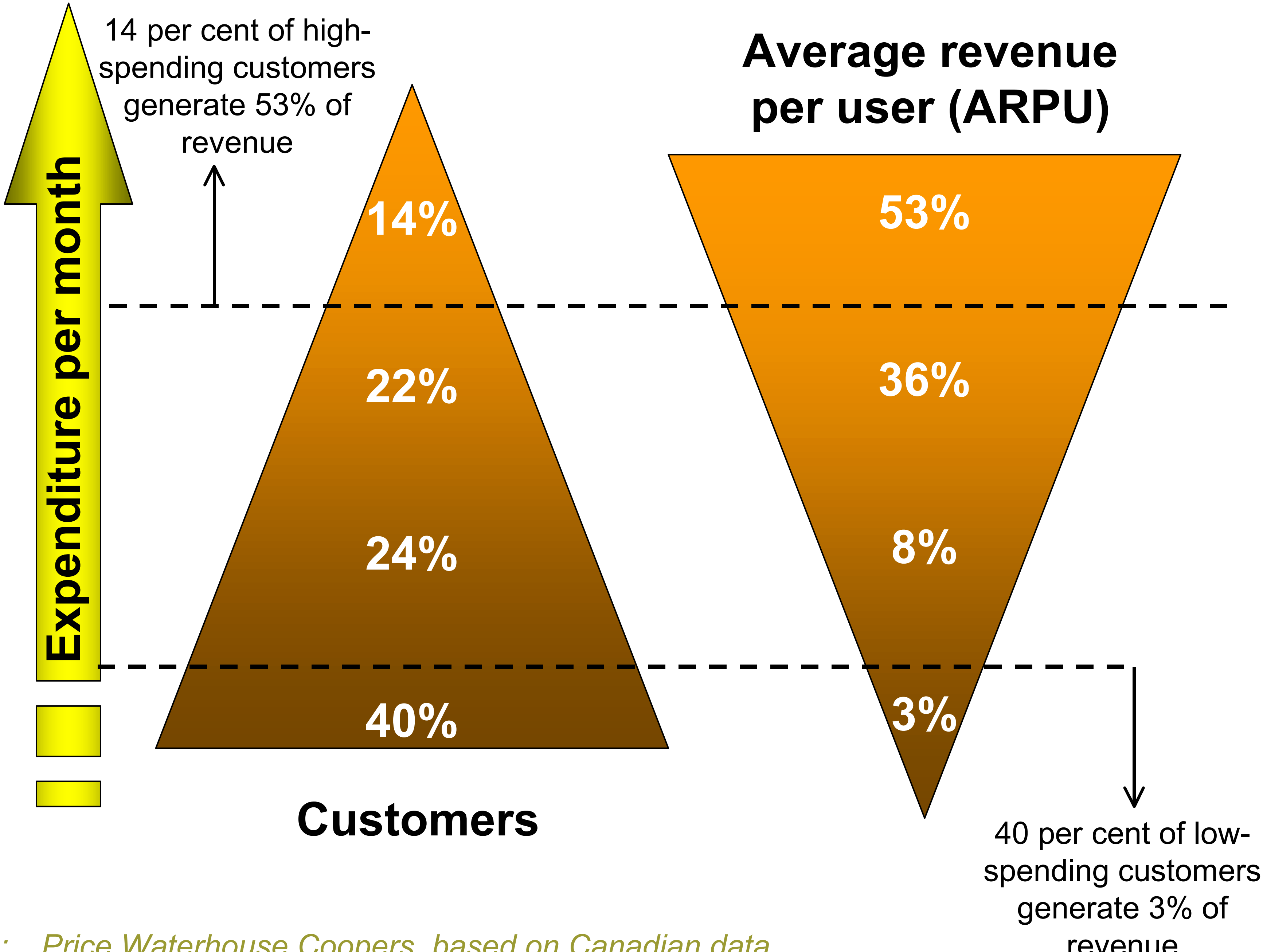
Note: CAGR = Compound Annual Growth rate.
Source: ITU "World Telecommunication Development Report 1999: Mobile cellular"

Average revenue per user (ARPU)
Bell Mobility (Canada)



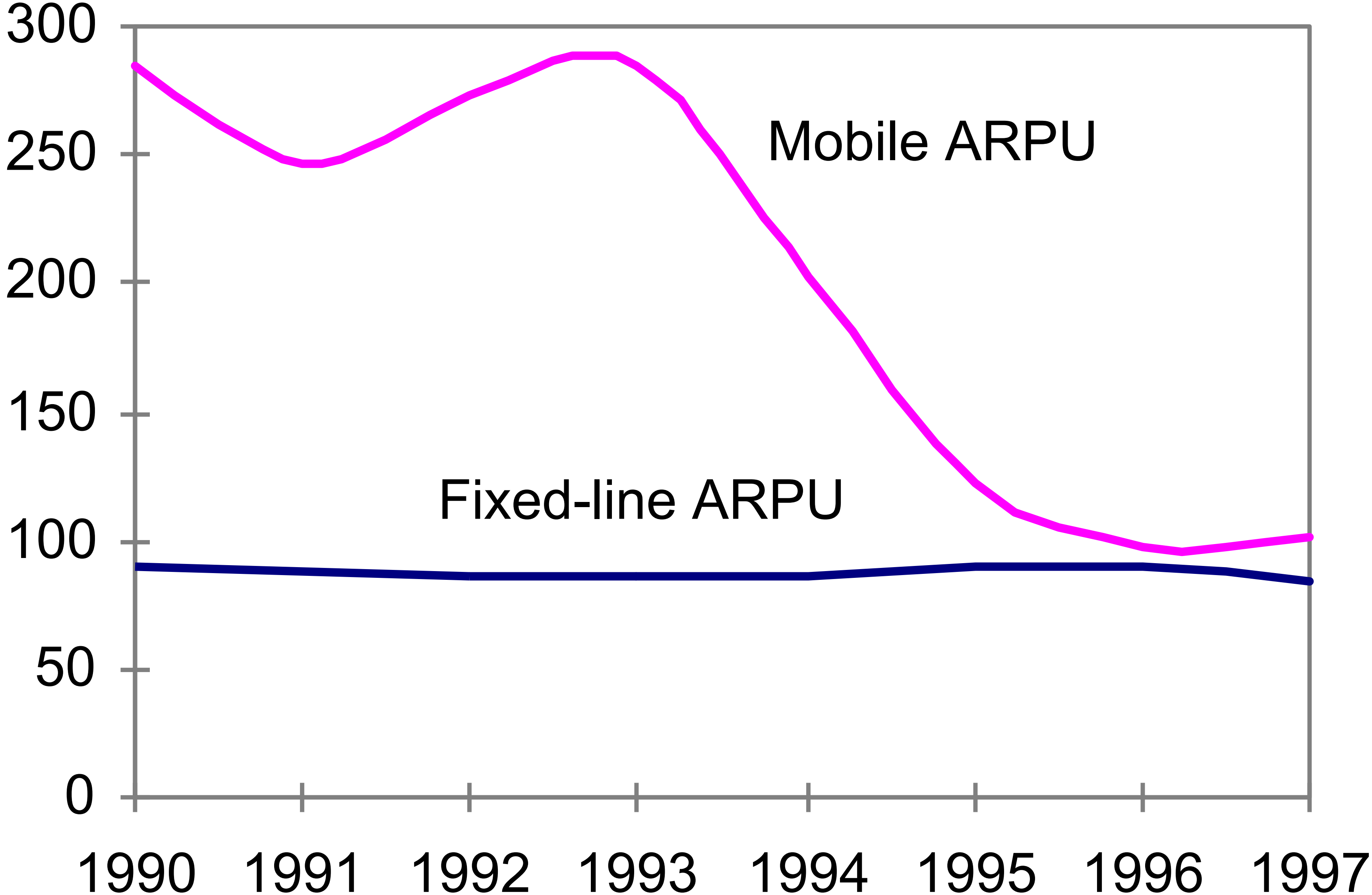
Source: ITU "World Telecommunication Development Report 1999: Mobile cellular"

Cultivate the high-spenders



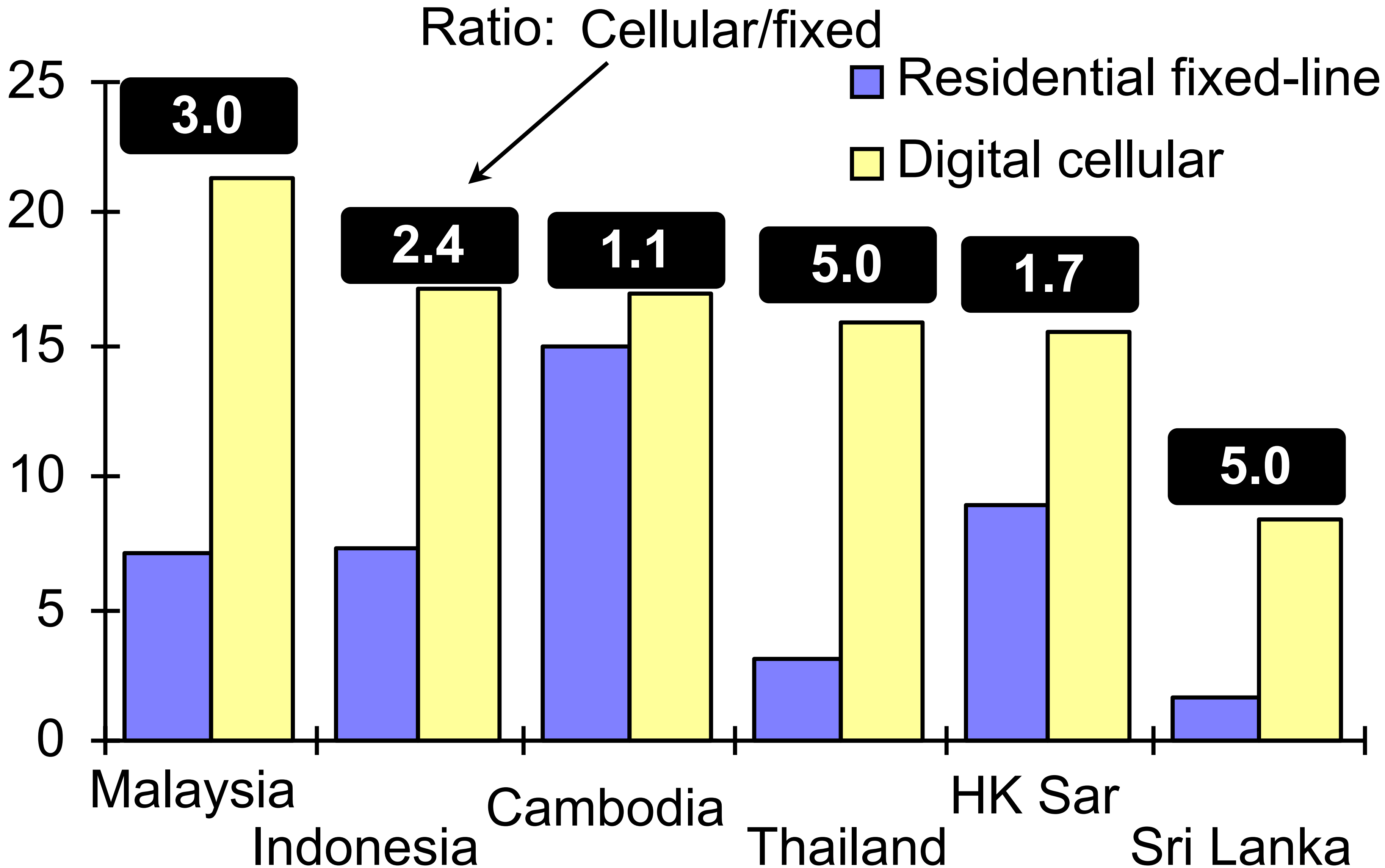
Source: Price Waterhouse Coopers, based on Canadian data.

Mobile ARPU converging with Fixed-line ARPU, Japan (Yen '000s p.a.)

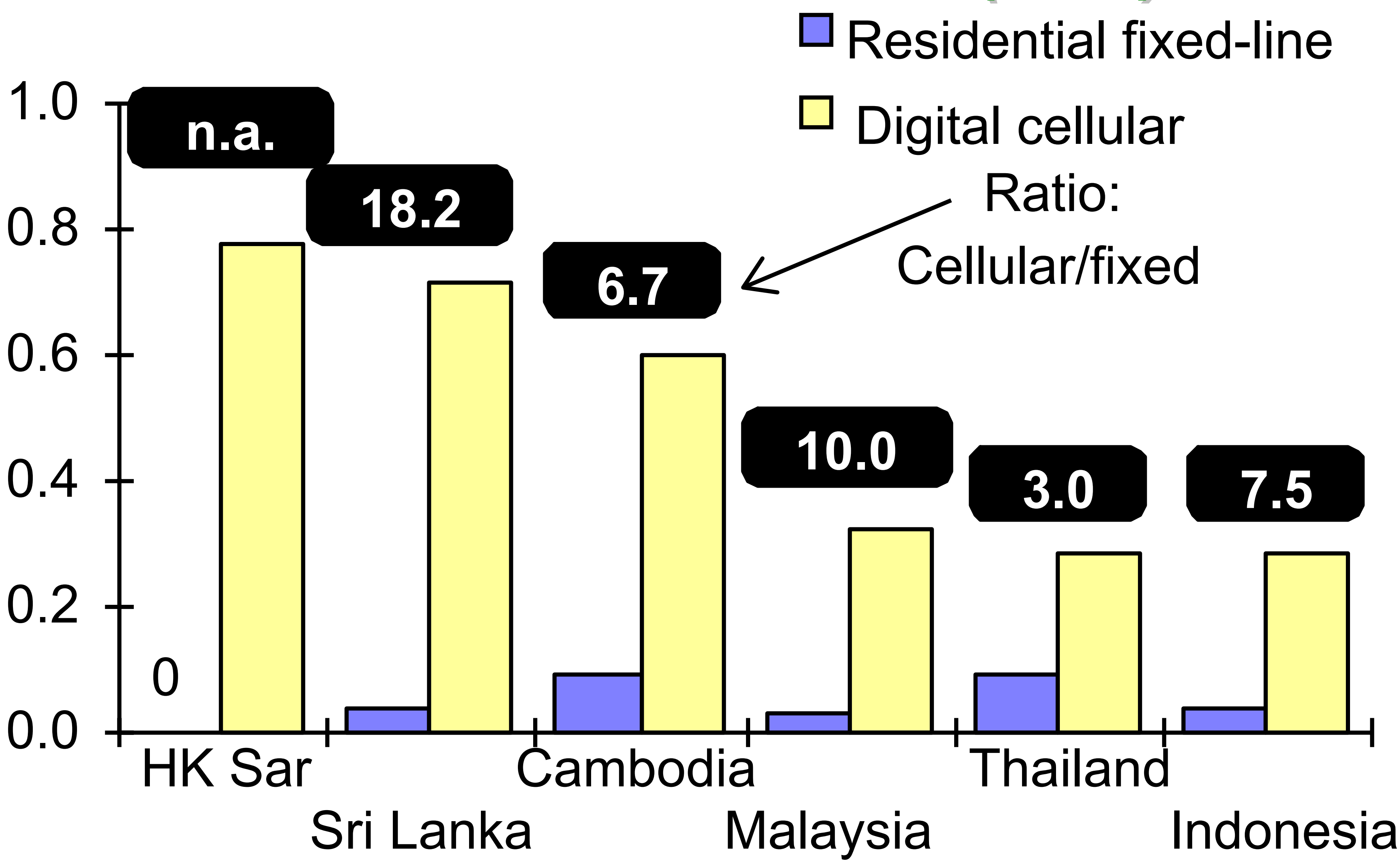


Source: ITU "World Telecommunication Development Report 1999: Mobile cellular"

Pricing mobile and fixed:
Monthly subscription charges (US$)



Pricing mobile and fixed:
Price of 3 minute local calls (US$)



RPP vs. CPP: Mobile users don’t always pay to talk

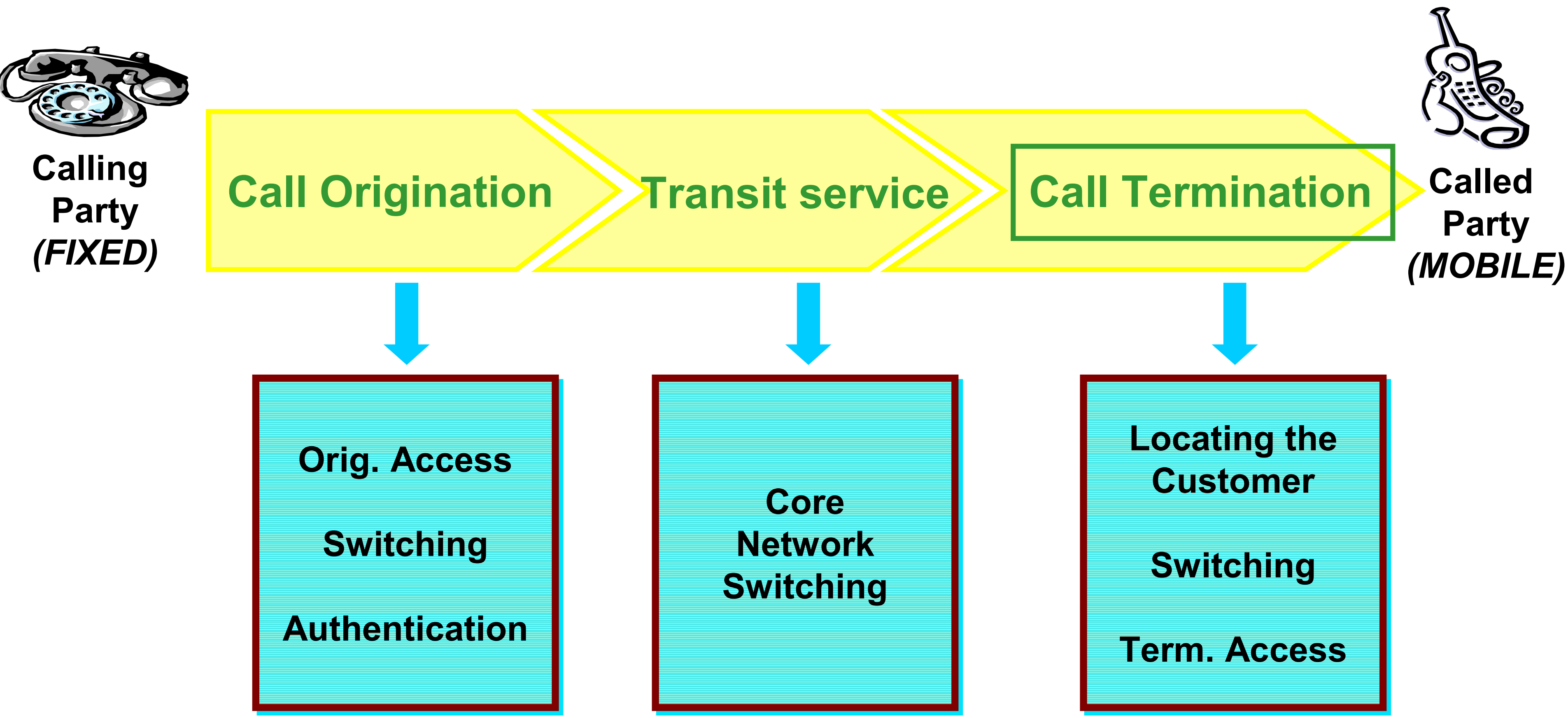
Receiving Party Pays

- Mobile party pays for incoming calls and fixed party pays only local tariff
- Often, no interconnect arrangement is negotiated with the fixed operator for F-M calls. Mobile operators bill mobile consumer directly for “airtime”.

Calling Party Pays

- Mobile party does not pay for incoming calls and fixed party pays a premium to call the mobile party
- Call termination paid by fixed operators is a significant part of mobile operator revenues

Components of a Fixed to Mobile Call



Source: Adapted from ECTA

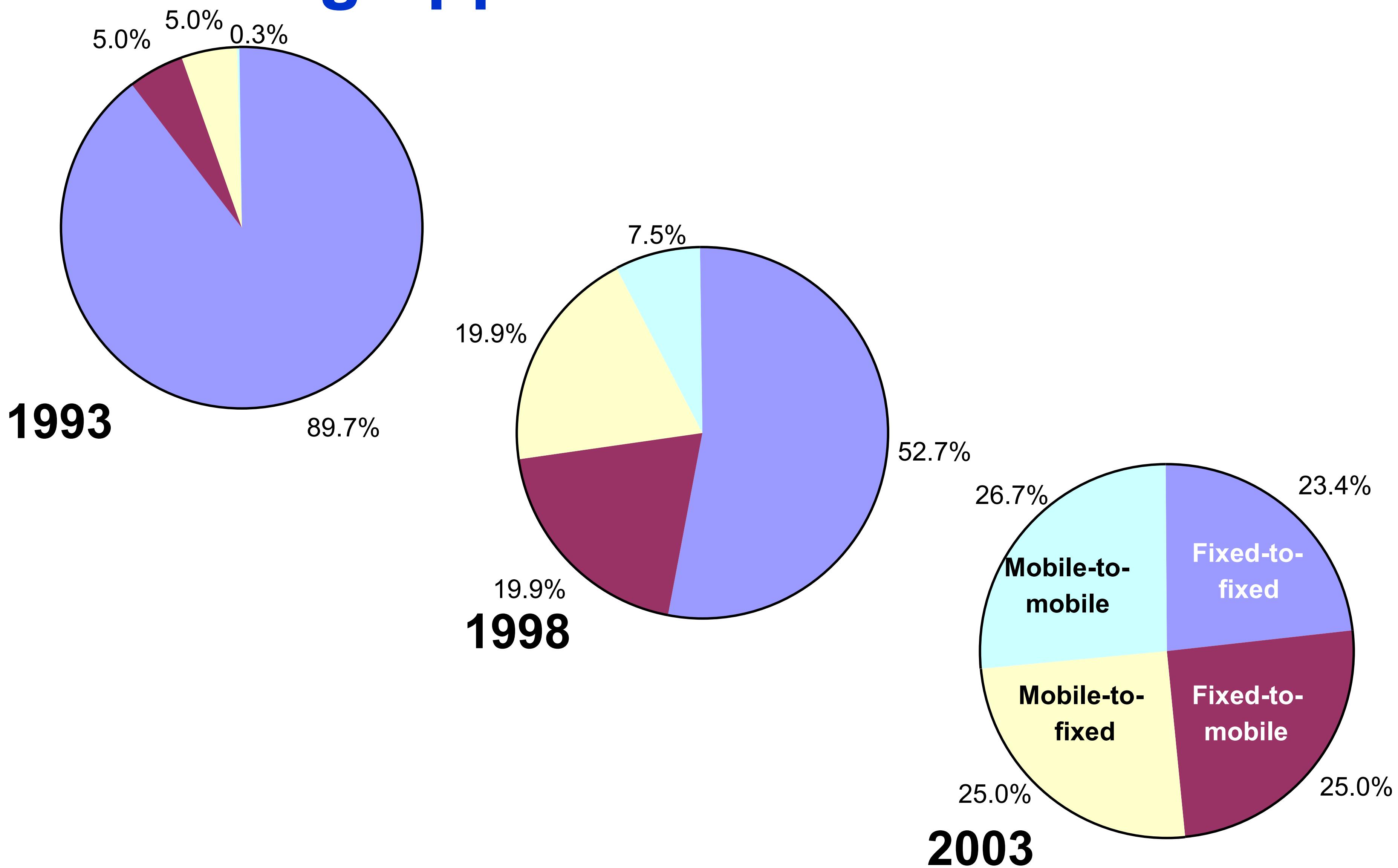
Fixed-Mobile Interconnection

- Interconnect prices are a major determinant of retail prices
- Evidence of "market failure"
  - ⇒ Interconnect prices are variable but generally very high
  - ⇒ In Calling Party-Pays environments, caller may not be aware of the charge they will be paying
  - ⇒ Calling party does not have a choice of operator to terminate the call
- Fixed-to-mobile and mobile-to-fixed highly asymmetric
- By 2003, 75% of all calls worldwide will involve a mobile

Problems in calling-party-pays (CPP) environments

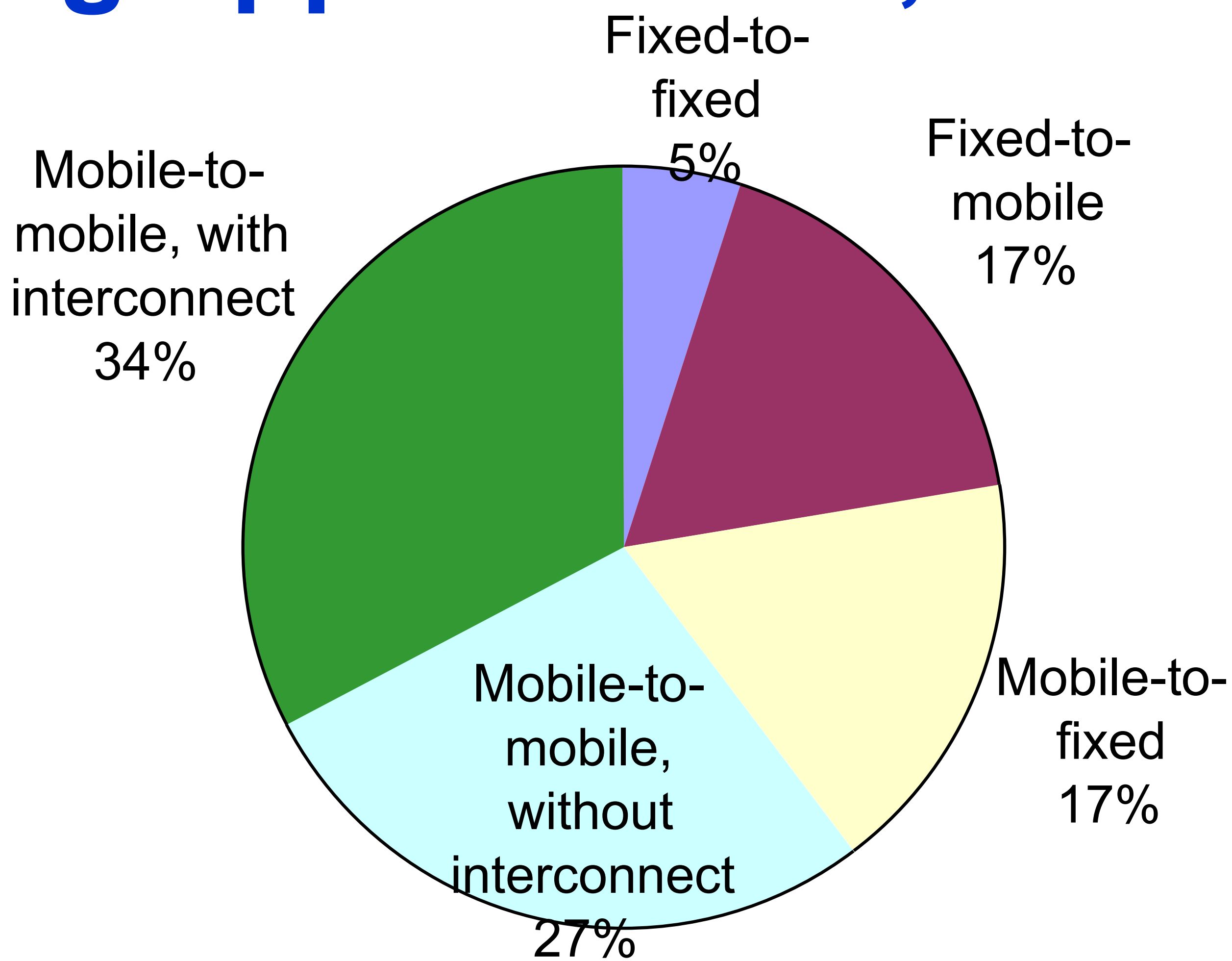
- Lack of tariff transparency
- Mobile operators not subject to commercial consequences of keeping rates elevated
- Vertical integration further reduces incentives to lower rates

Calling opportunities worldwide



Source: ITU Fixed-Mobile Interconnect website: http://www.itu.int/interconnect

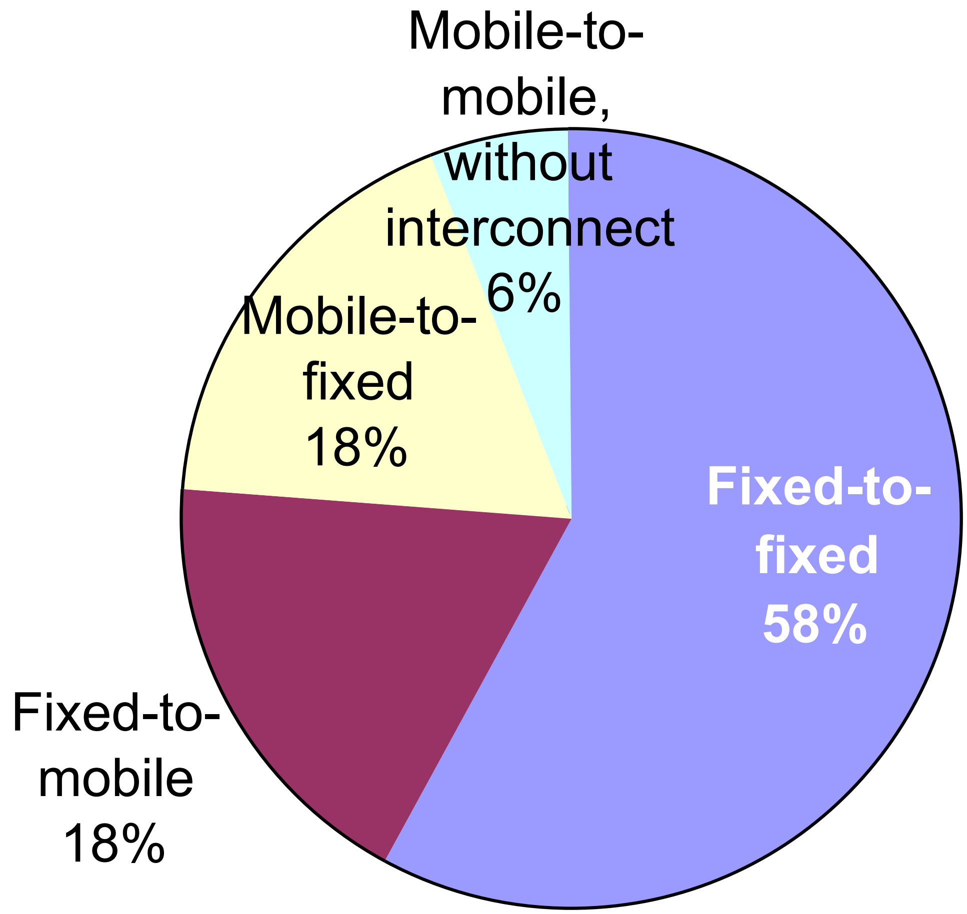
Calling opportunities, Cambodia



Note: Mobile subscribers = March 2000; fixed-line subscribers = December 1999.

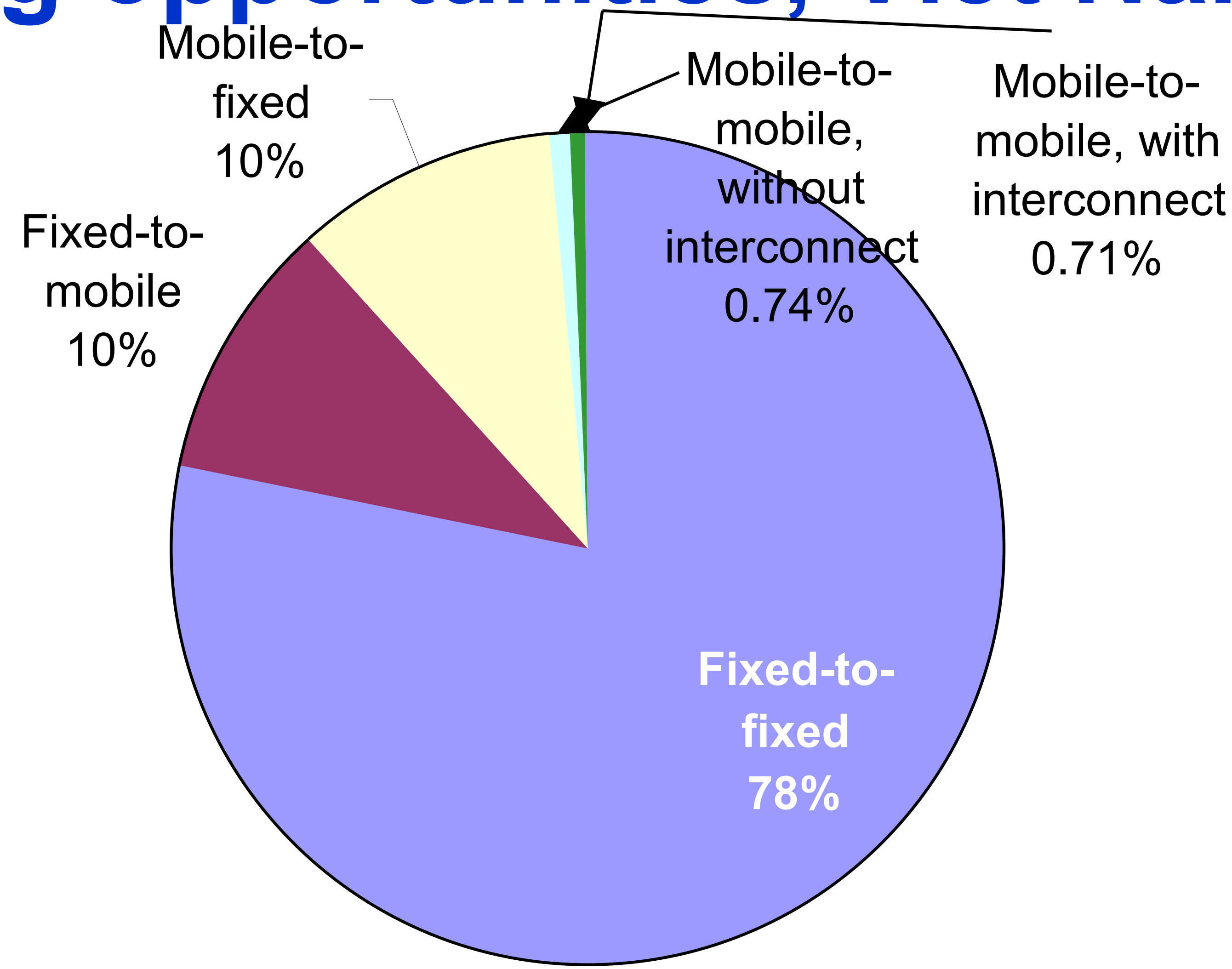
Source: ITU World Telecommunication Indicators Database.

Calling opportunities, Lao PDR



Note: Mobile subscribers = March 2000; fixed-line subscribers = December 1999.
Source: ITU World Telecommunication Indicators Database.

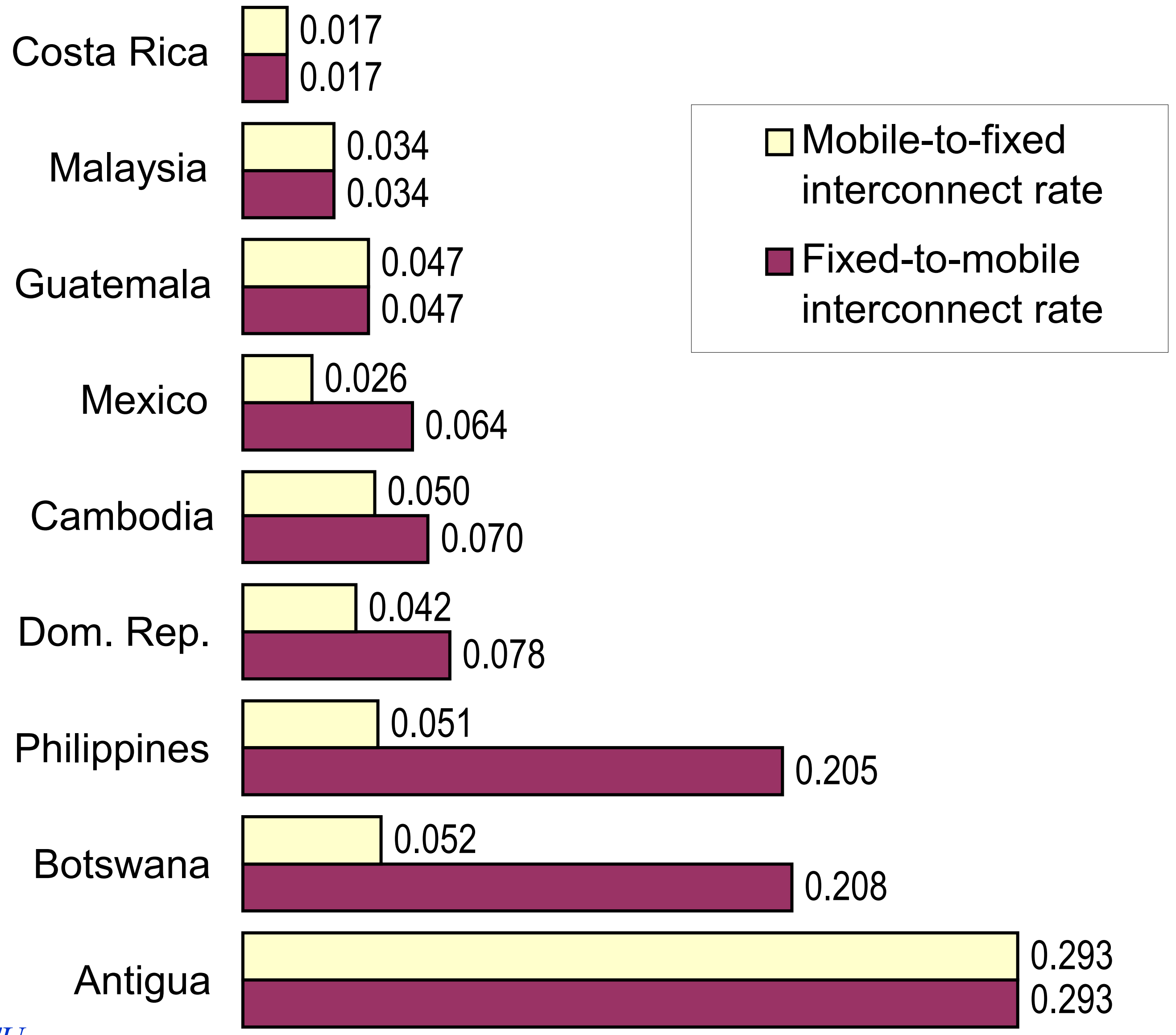
Calling opportunities, Viet Nam



Note: Mobile subscribers = March 2000; fixed-line subscribers = December 1999.

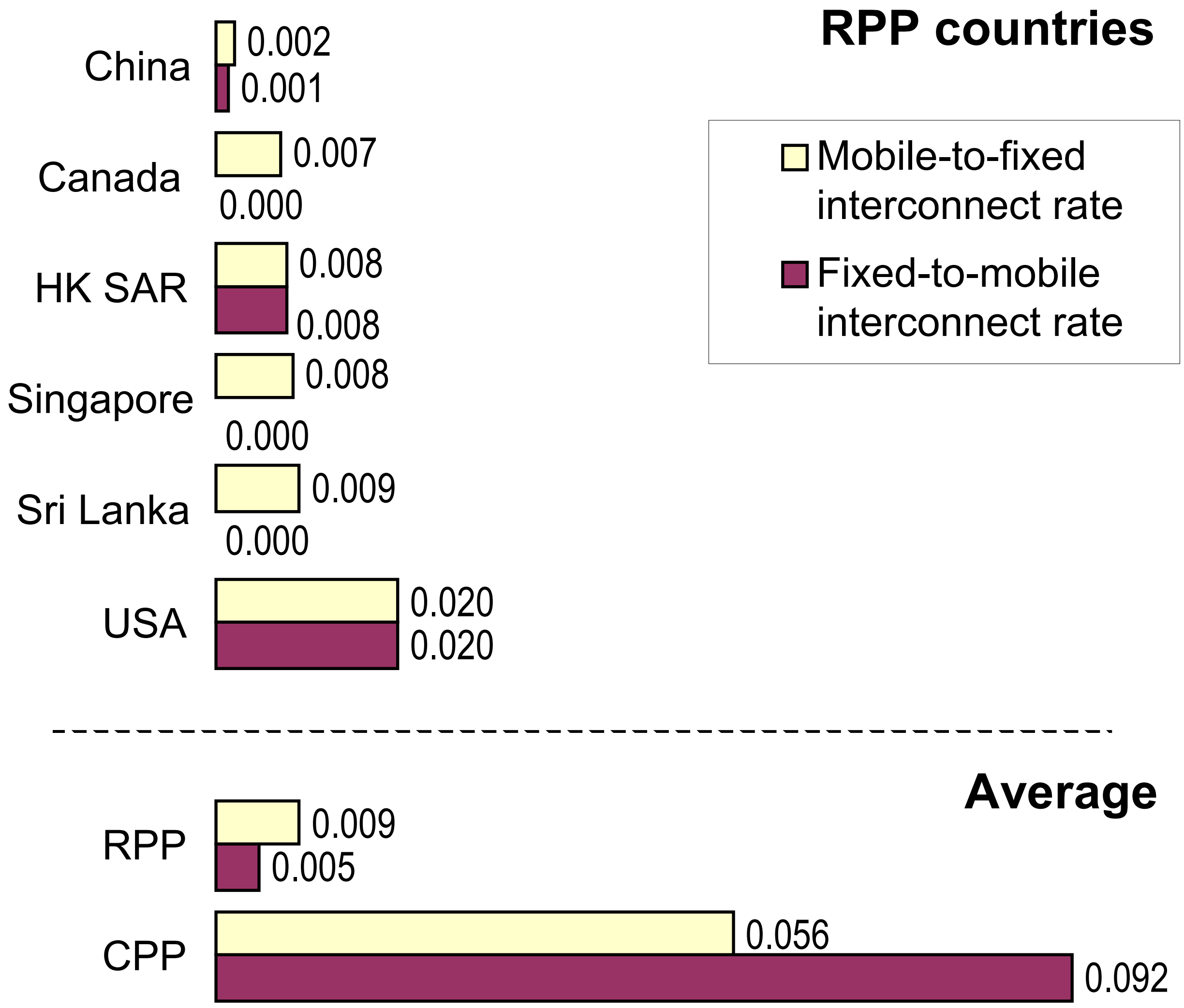
Source: ITU World Telecommunication Indicators Database.

Fixed/Mobile interconnect rates in selected calling-party-pays countries

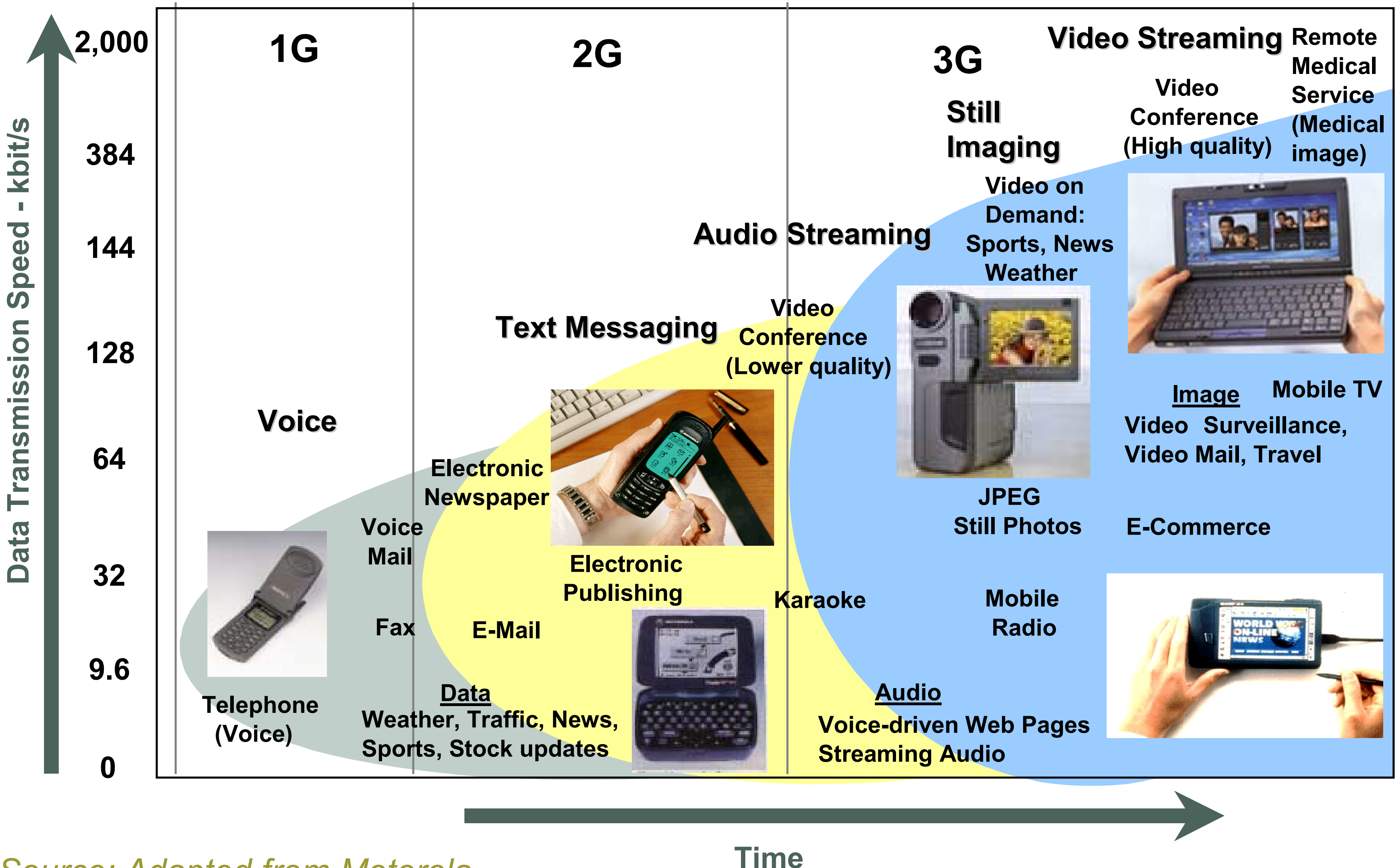


Source: ITU.

Sample prices in RPP environments



The race for 3rd Generation mobiles: IMT-2000

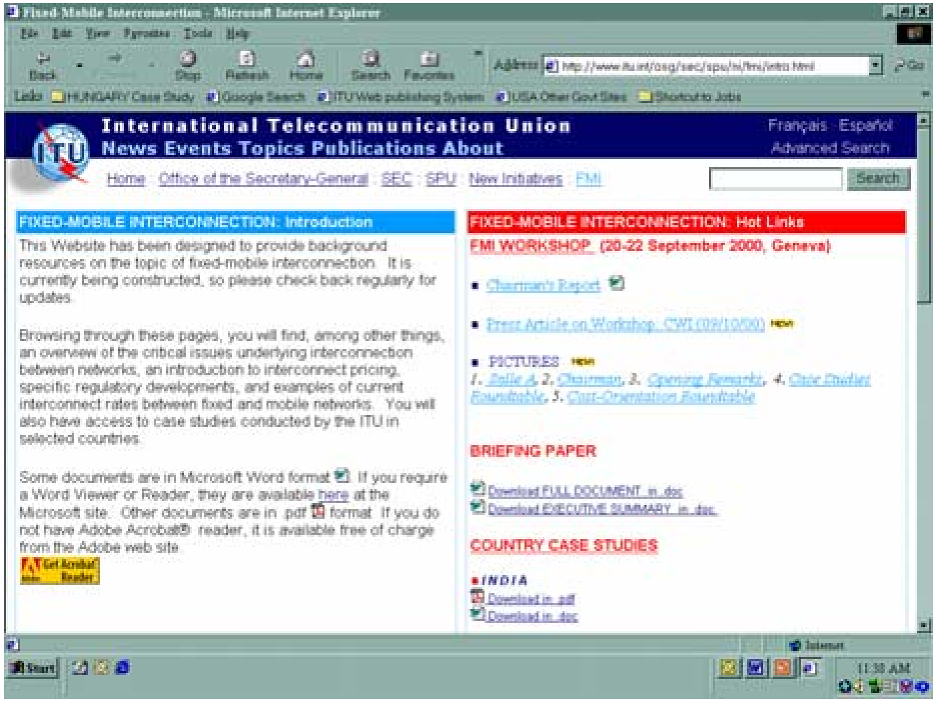


Source: Adapted from Motorola.

Future Trends: Mobile Internet

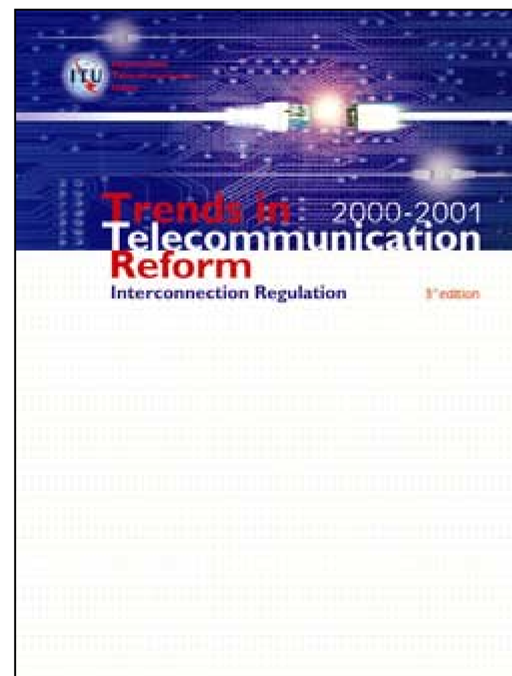
- **Pricing and billing**
  - ⇒ unmetered flat-rate (Internet)
  - ⇒ per-minute charges (Mobile)
- **From circuit-switching to packet-switching**
  - ⇒ Impact on nature of interconnection agreements?
- **Evolution of the interconnection value chain: connectivity, capacity, content …**
  - ⇒ How to measure value? How to split revenue among players?

For more information … ITU Website at www.itu.int/interconnect



Case studies

- Finland
- India
- Mexico
- China/HK



Trends in Telecom Reform, 2001 edition: Interconnection