

The success of GSM

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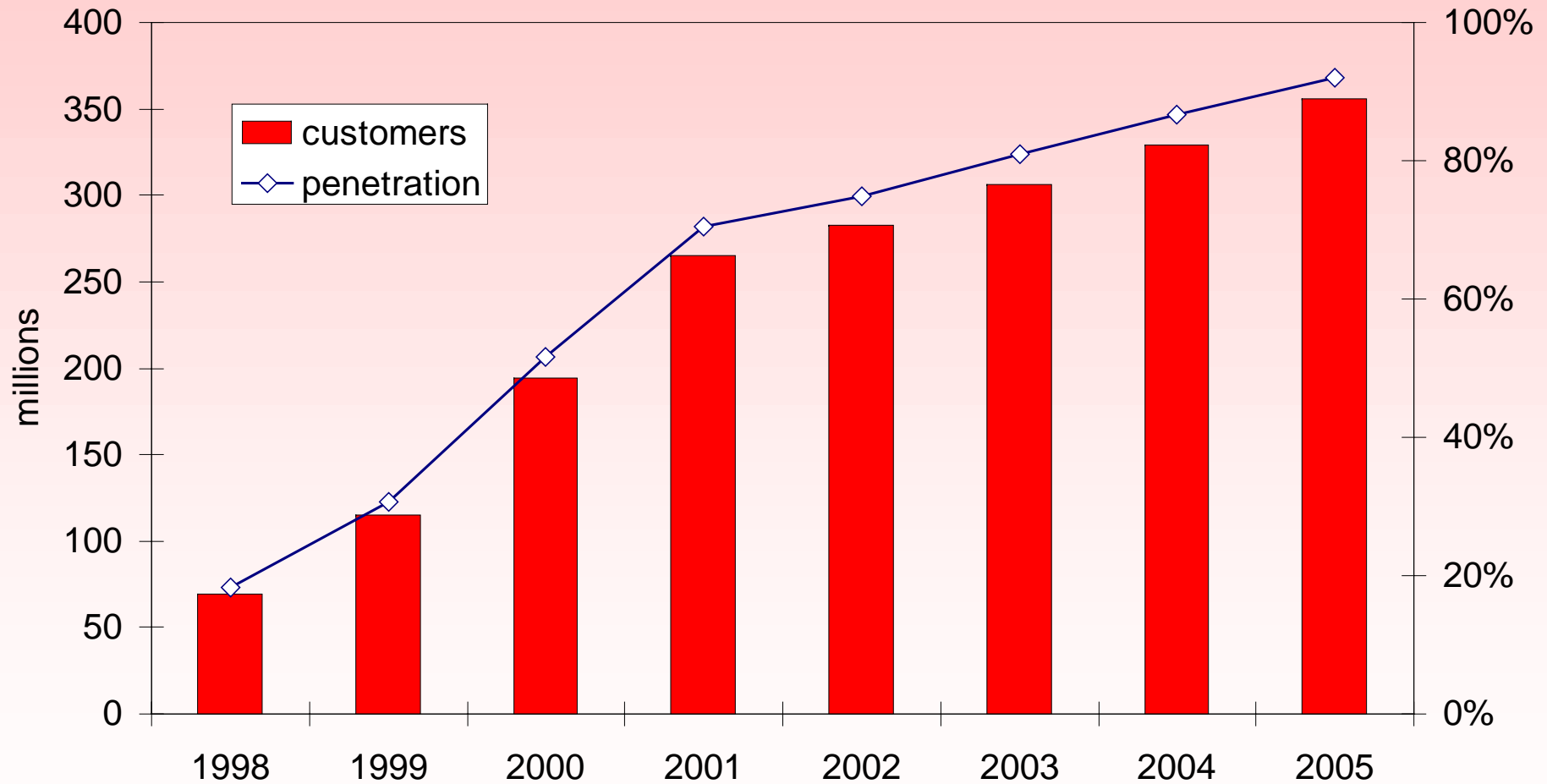
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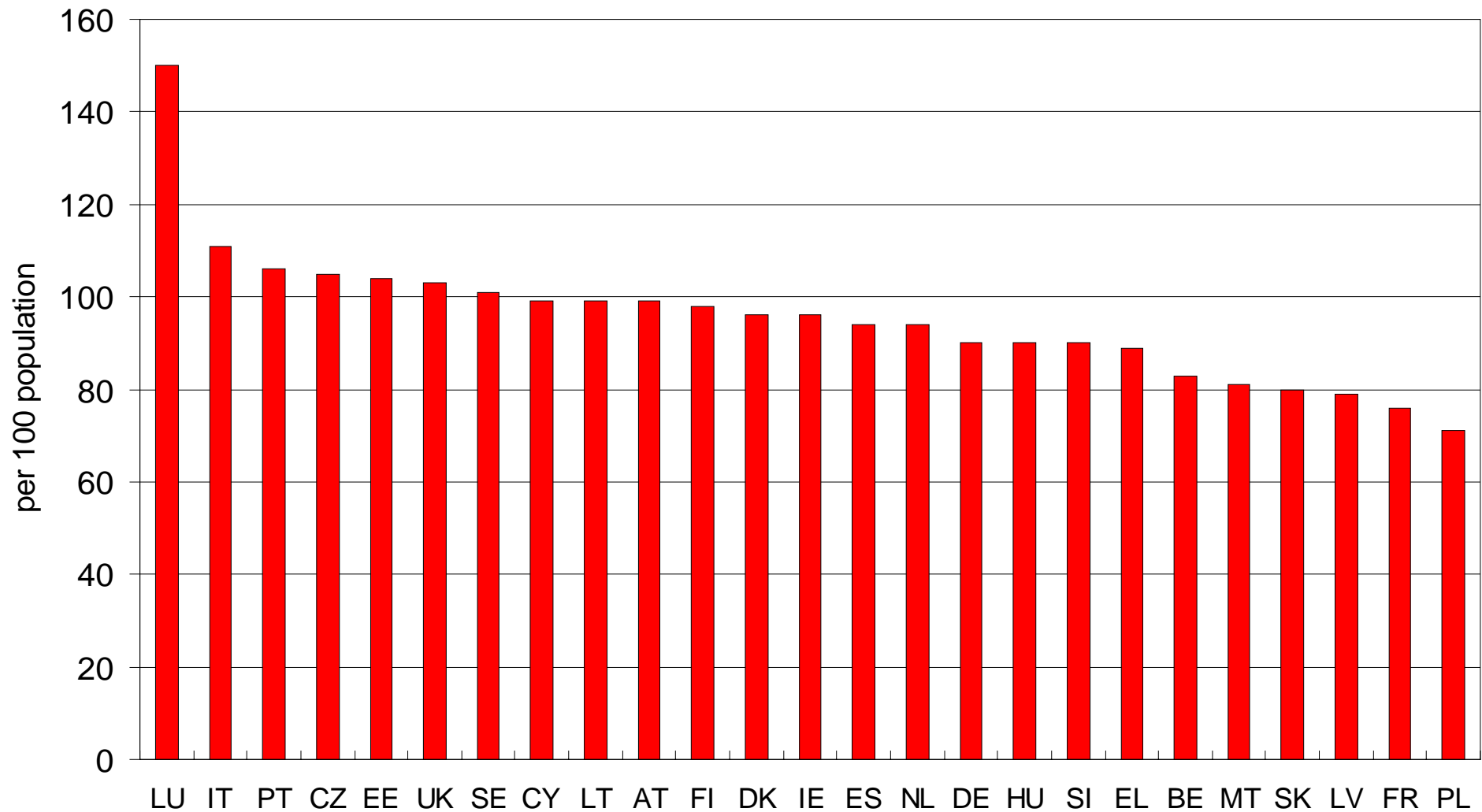
Measures of success

- Numbers of customers
- Teledensity
- Growth
- Revenues
- Minutes of voice traffic
- Terabytes of data traffic
- € billions of value added services
- Policy and business lessons for 3G + 4G

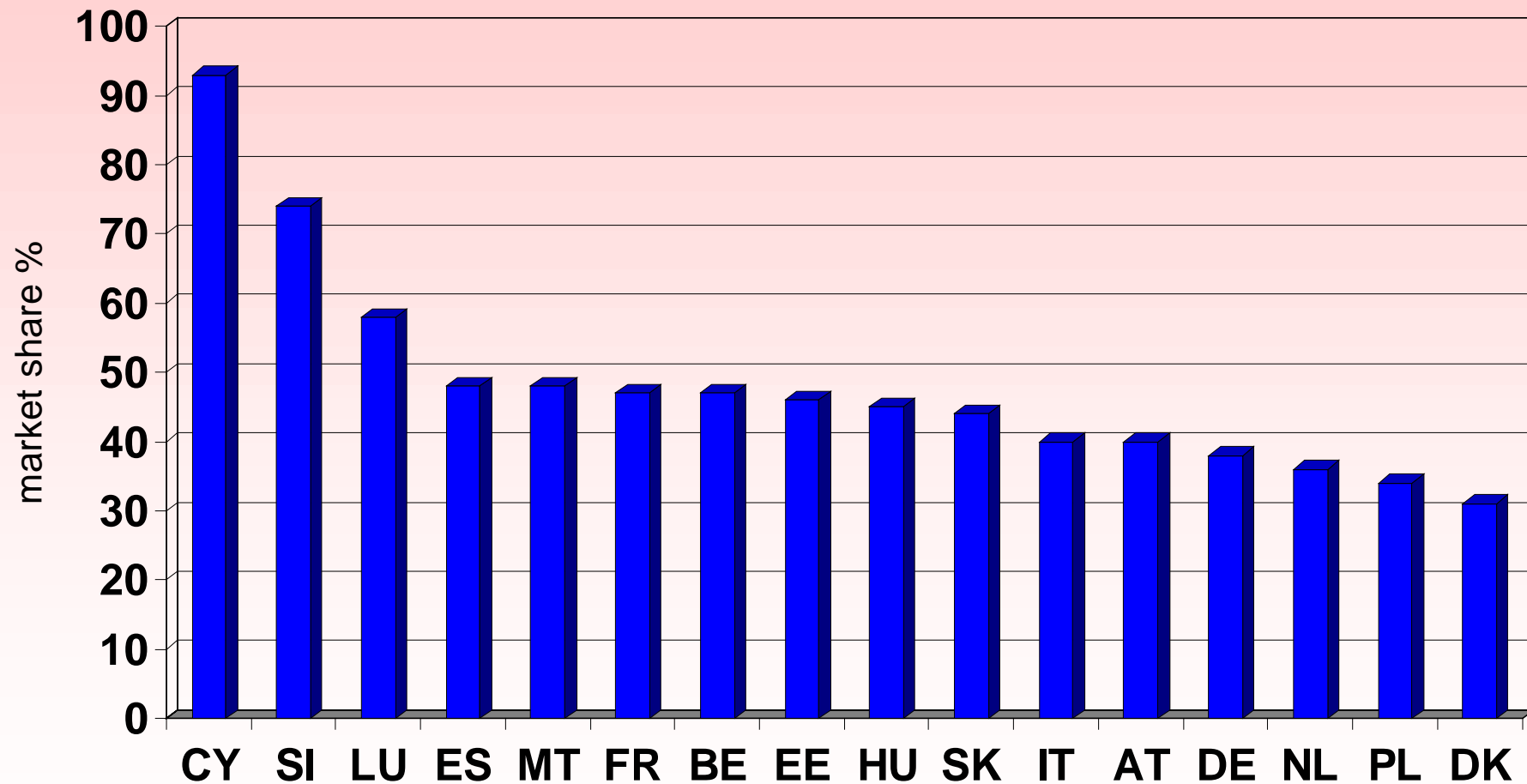
Growth of GSM in the EU-15



Mobile penetration rates in EU



Incumbents on mobile markets



Is the success replicable?

- TETRA - failed
 - digital Private Mobile Radio (PMR)
 - killed by GSM
- ERMES - failed
 - digital, bi-directional paging
 - pan-EU spectrum
 - killed by GSM
- PCS - failed
 - absorbed into GSM
 - 1800 MHz personal communications system
- GPRS - failed?
 - ISDN for mobiles
- UMTS - ?
 - Games, Gambling and Girls
- Mobile TV - ?
 - a dozen different solutions
 - MNOs and broadcasters both want to control this

The economics of success

- Telecommunications market:
 - increased competition
 - operator productivity gains
 - increased employment
- Downstream business activity:
 - productivity gains
 - new services and products
- Upstream business activity:
 - design and manufacturing jobs
 - development of Value Added Services

User complaints

- High call charges, especially on pre-paid
- Extremely complex tariff plans
- High fixed-to-mobile rates
- High rates for SMS
- Lock-in through handset “subsidies”
- Exorbitant international roaming charges
- High prices for data services
- Poor customer care

The underlying cause is the lack of competition.

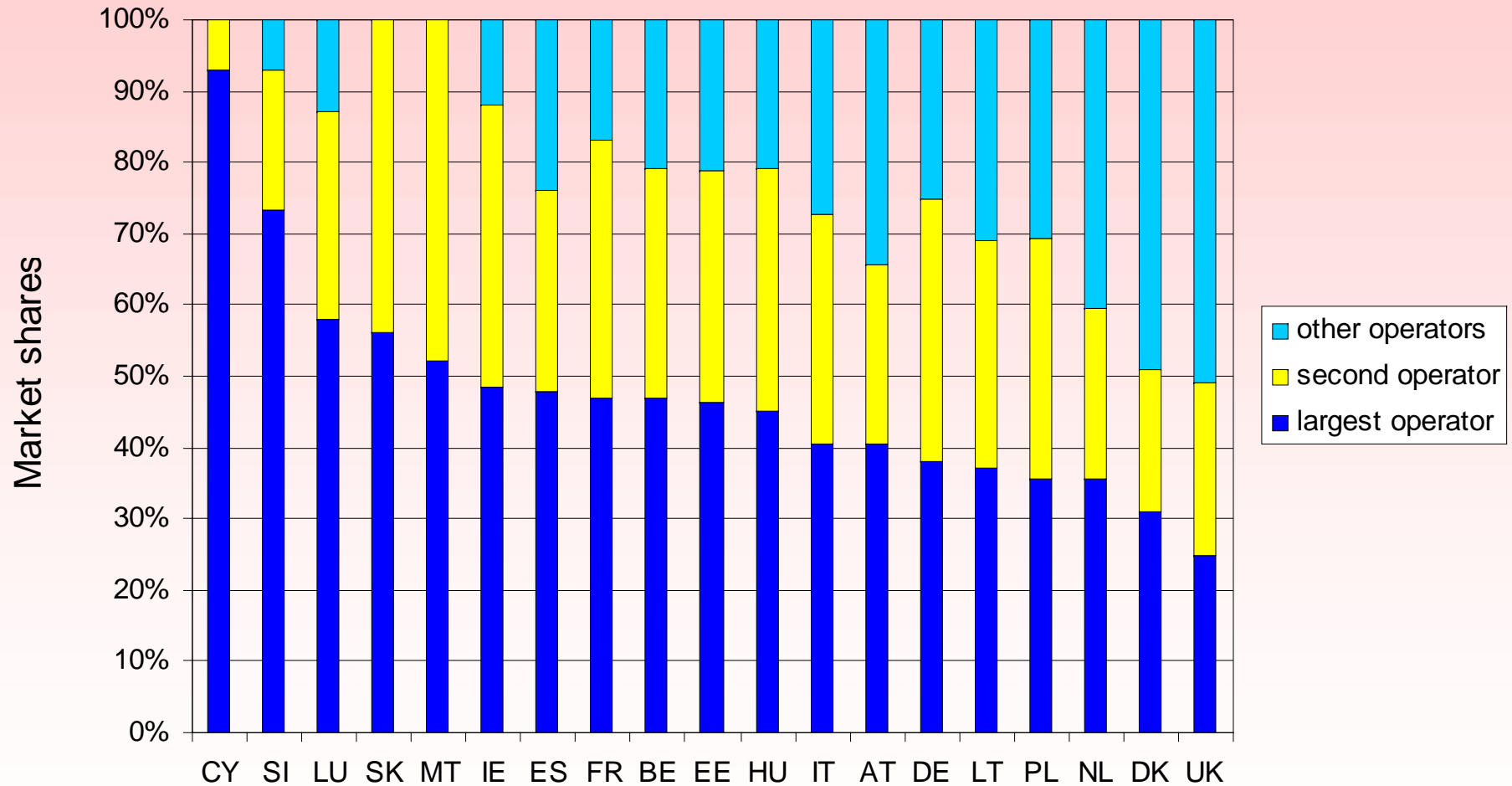
Collusion

- France:
 - Yalta agreement amongst operators
 - fined €483,000,000 by NCA
- Greece:
 - operators raised SMS prices
 - same day
 - same amount
 - fined by EETT €1,200,000 each

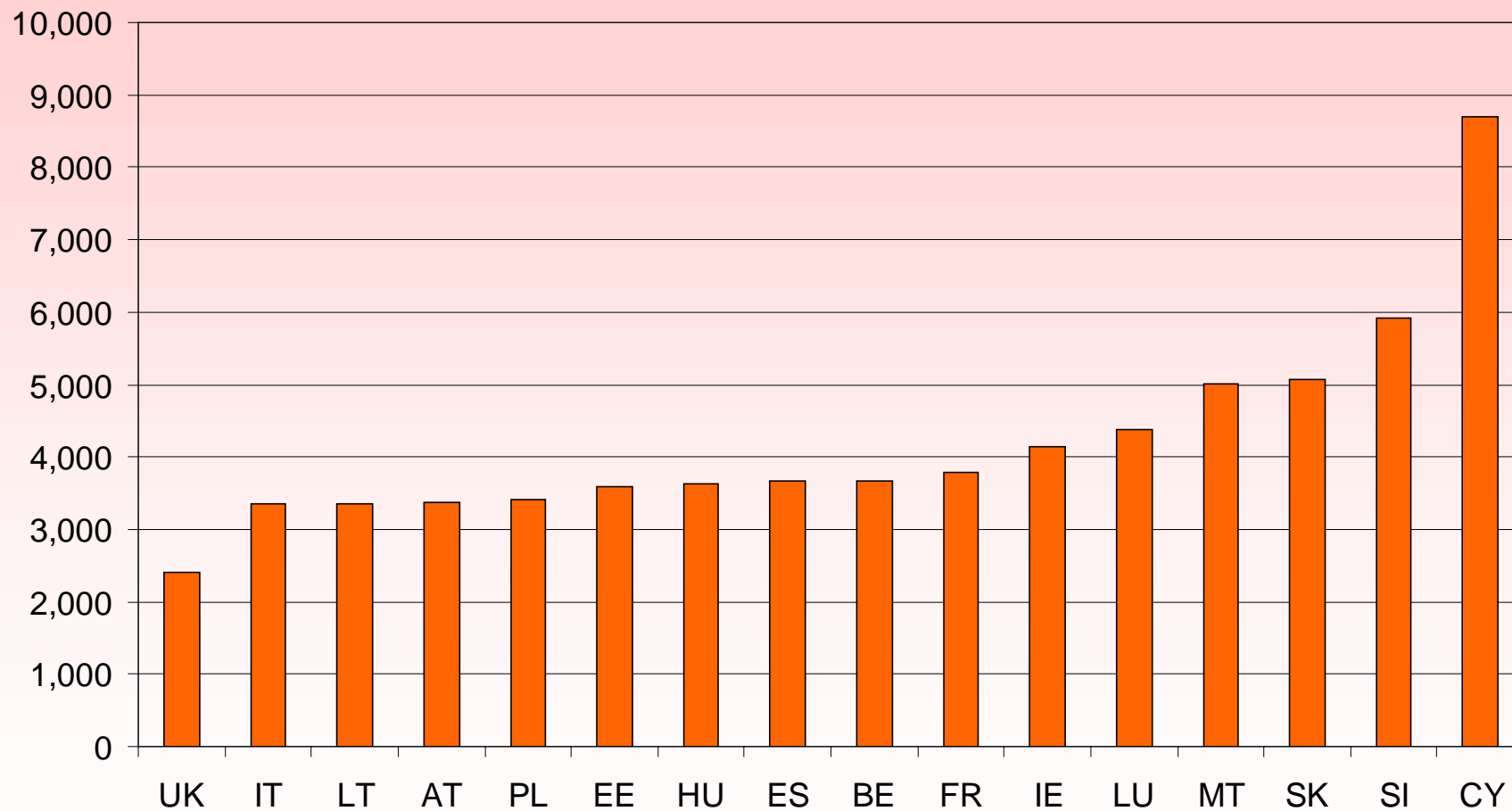


<http://www.cartelmobile.org/>

Mobile market shares



Herfindahl-Hirschman Index



Mergers and acquisitions

- During the dot.com boom:
 - bought with shares, not cash
- Paused with dot.bomb
- Began again:
 - Telefónica de España (Latin America and O₂)
 - Vodafone in Eastern Europe
- Has taken years to integrate businesses
- Some use of trans-national brands
- No trans-national customer offers

Mobile network operators

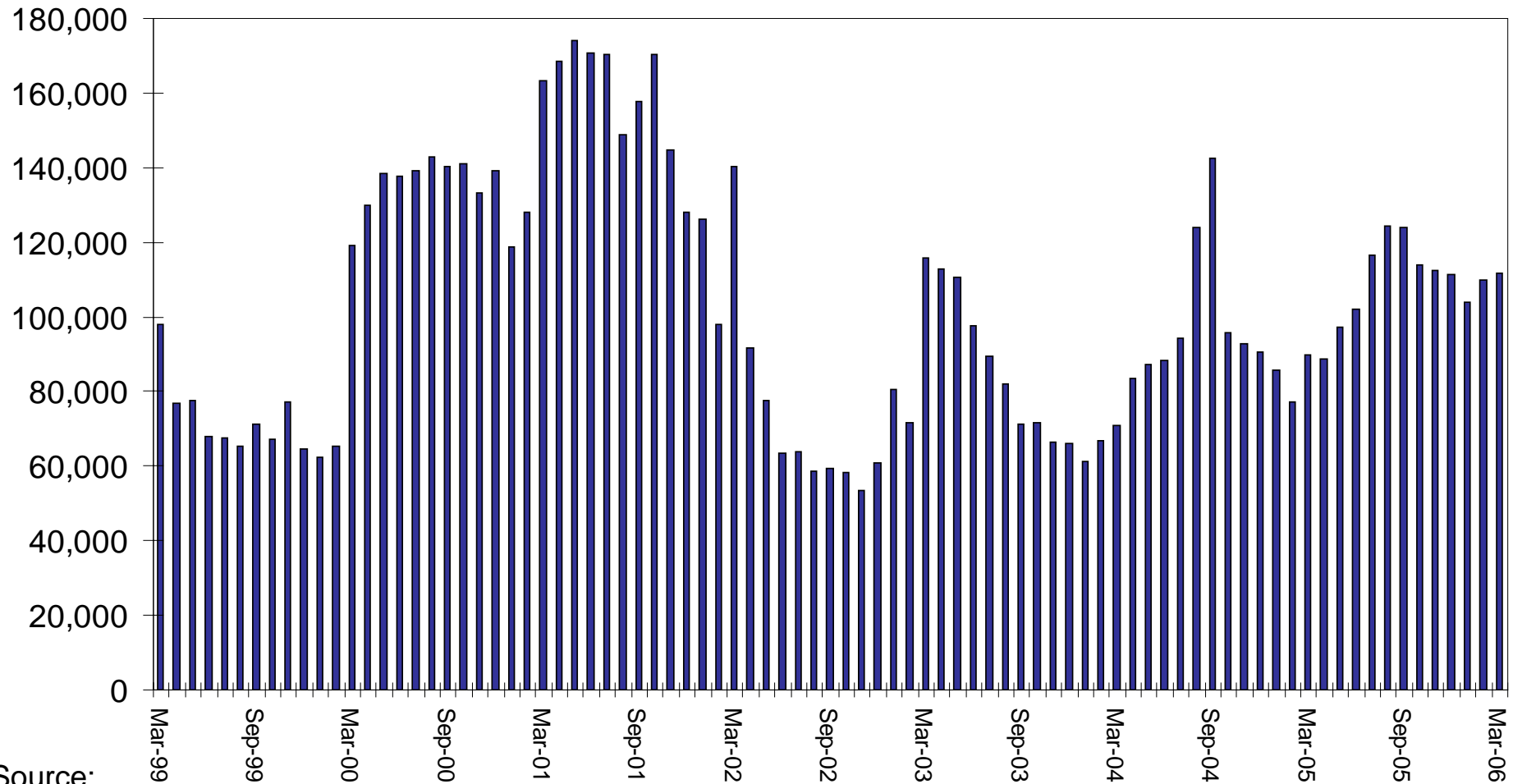
- Politico-regulatory gamesmanship:
 - high-power lobbying
 - systematic appeals against decisions
- 3D strategy:
 - Deny
 - Delay
 - Degrade

The original plan was for incumbent operators to learn about competition from mobile markets. Instead, there is convergence of tactics.

Churn is good (to an extent)

- The ability to switch supplier is a sign of a properly functioning market
- Customers should be able freely to move between suppliers
- However, high churn rates indicate:
 - poor quality of service
 - inadequate customer care
 - excessive prices
- Combined with high customer acquisition costs, high churn rates make the mobile sector very inefficient
- Operators try to lock customers in with:
 - handset “subsidies”
 - network specific handset designs
 - tariff schemes
- These invite interventions by NRAs and NCAs
- MNP does not cause churn, it merely frees customers to churn

MNP in Hong Kong, SAR

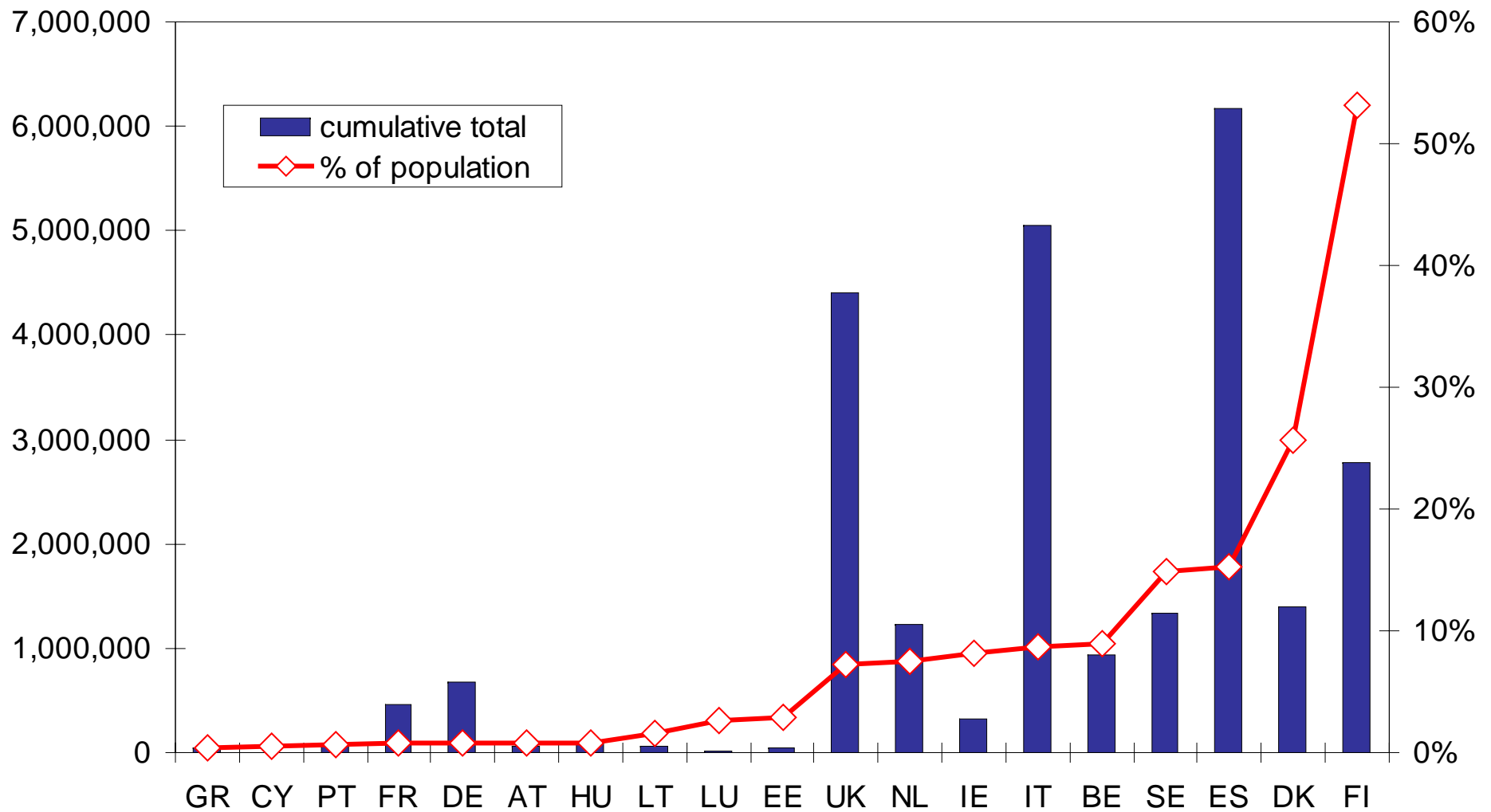


Source:
OFTA.

European Union – MNP

- Some countries have had MNP for a long time
- EU legal obligation since 25 July 2003:
 - geographic numbers
 - non-geographic numbers
- Technology neutral
 - MNP applies to 2G and 3G
- Portability between fixed and mobile:
 - Denmark and Switzerland had legal provisions, but extensively delayed
 - one major problem is high mobile termination rates
 - will never be applied

Mobile numbers ported in the EU

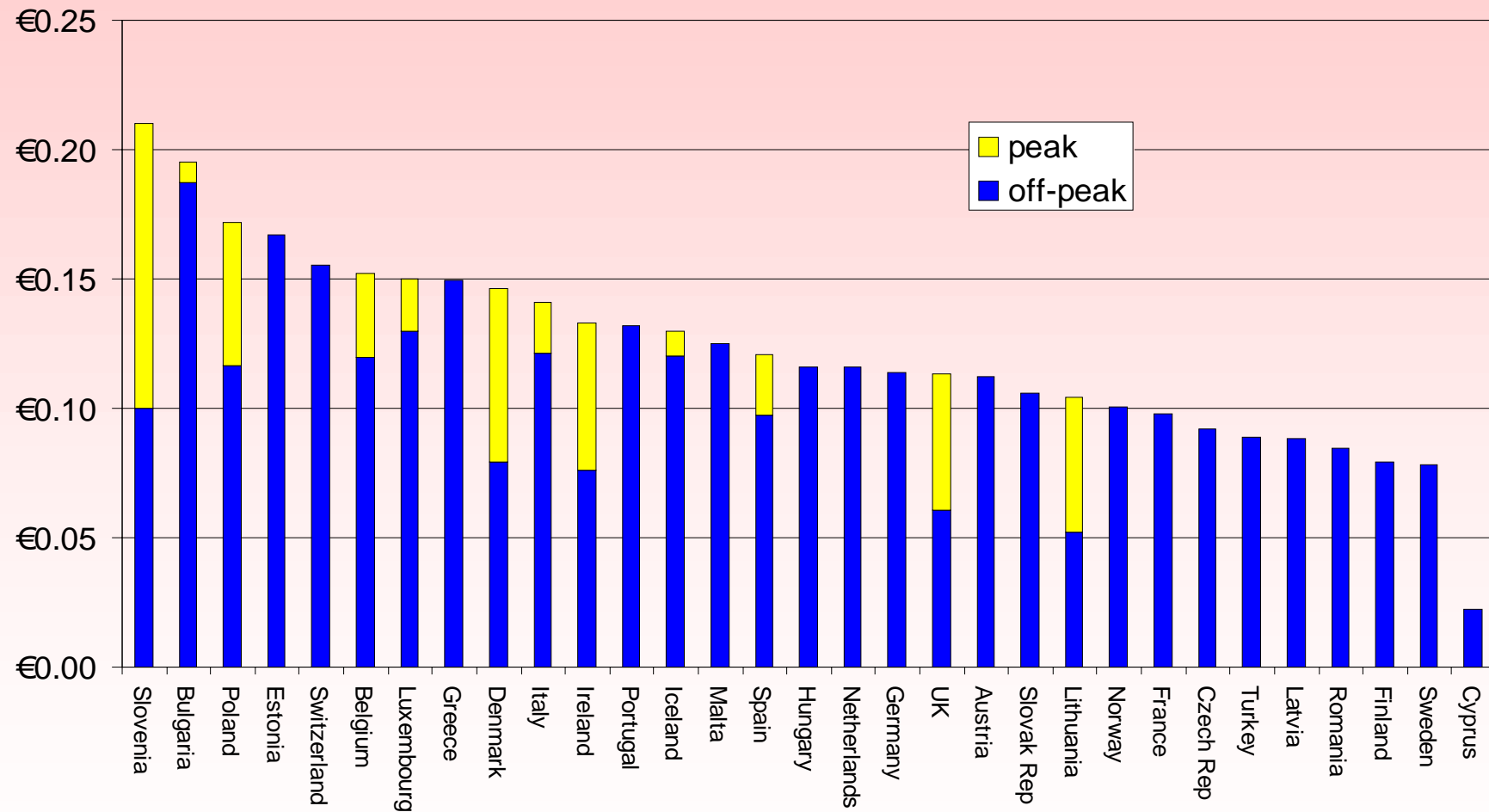


Source: EC, Eleventh Implementation Report.

Mobile termination rates

- A saga over many years
- Operators were originally assumed to be competitive, so allowed to set their own prices
- Long arguments over the need for regulation
- Painful regulatory processes of mind-numbing complexity
- Prices are still far above cost
- Regulatory action will be required for years
- Only just been extended to SMS prices

Snapshot of MTRs January 2006



Source: IRG.

Subsidiarity

- Member states were each to implement rules
- Operators demanded “light touch” regulation
- Some countries were incredibly slow
- A few received infringement proceedings
- “incumbent” mobile operators opposed everything
- Subsidiarity has demonstrably failed!
- There are no signs of an internal market
- Light touch regulation can clearly go wrong!

Handsets

- Rapid replacement:
 - fashion accessory
 - youth
- Non-network functions:
 - camera & album
 - purse & credit card
 - diary and alarm clock
 - Digital Audio Player (DAP)
- Many unused features



2.5G

- GPRS was to be the bridge to 3G
- Techno-hype but no applications
- Very little data usage, so very small revenues
- No commitments to data speeds, no QoS and no Service Level Agreements
- Some success with RIM Blackberry
- Very few value-added services
- Obvious comparison is with i-mode
- Very little to build on for 3G

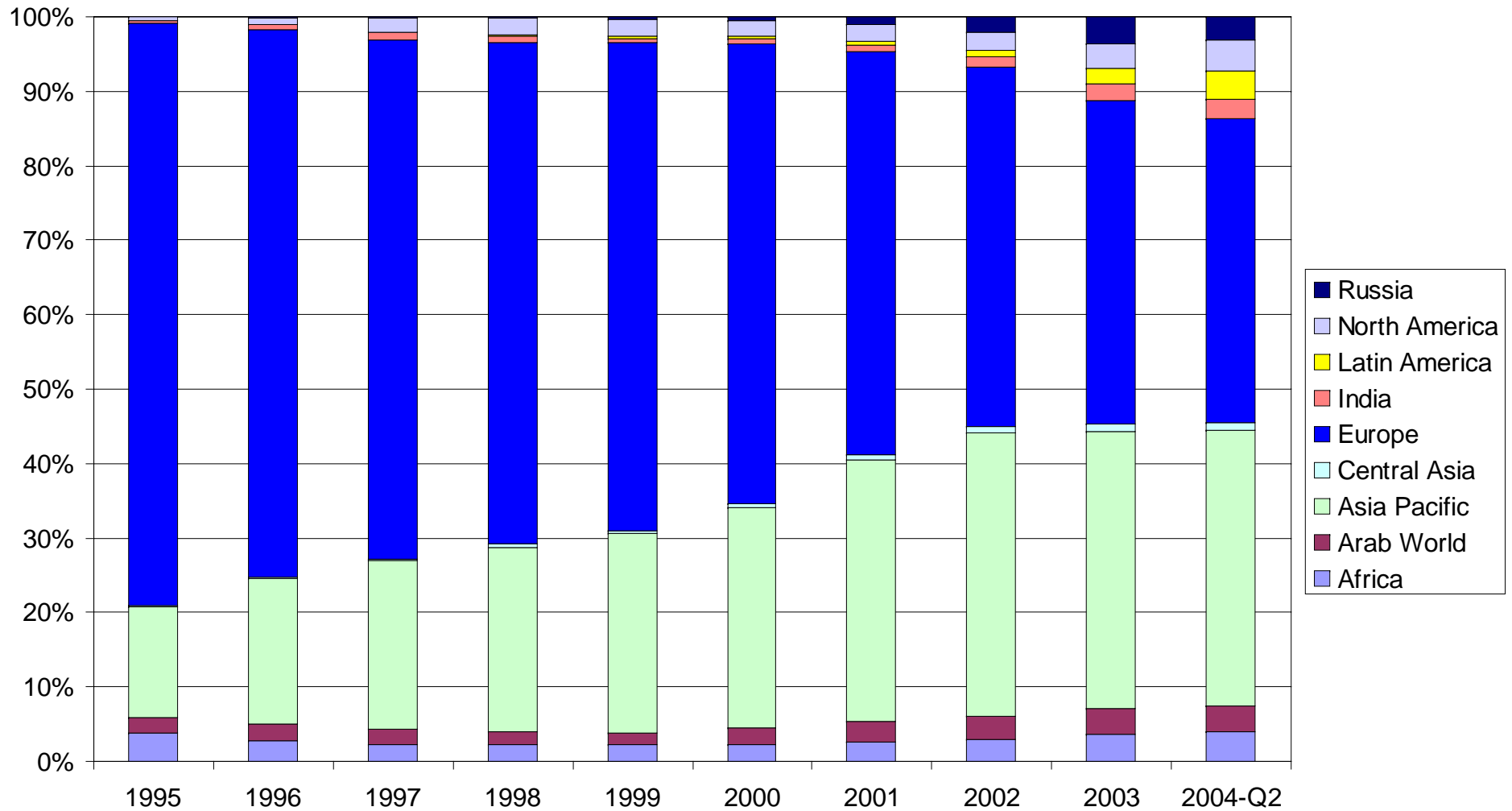
Monoculture

- GSM (or 3GSM) dominates the economic landscape
- Incredibly bitter rivalry with CDMA
- Competition is between 3GSM operators
- No competition with other business models

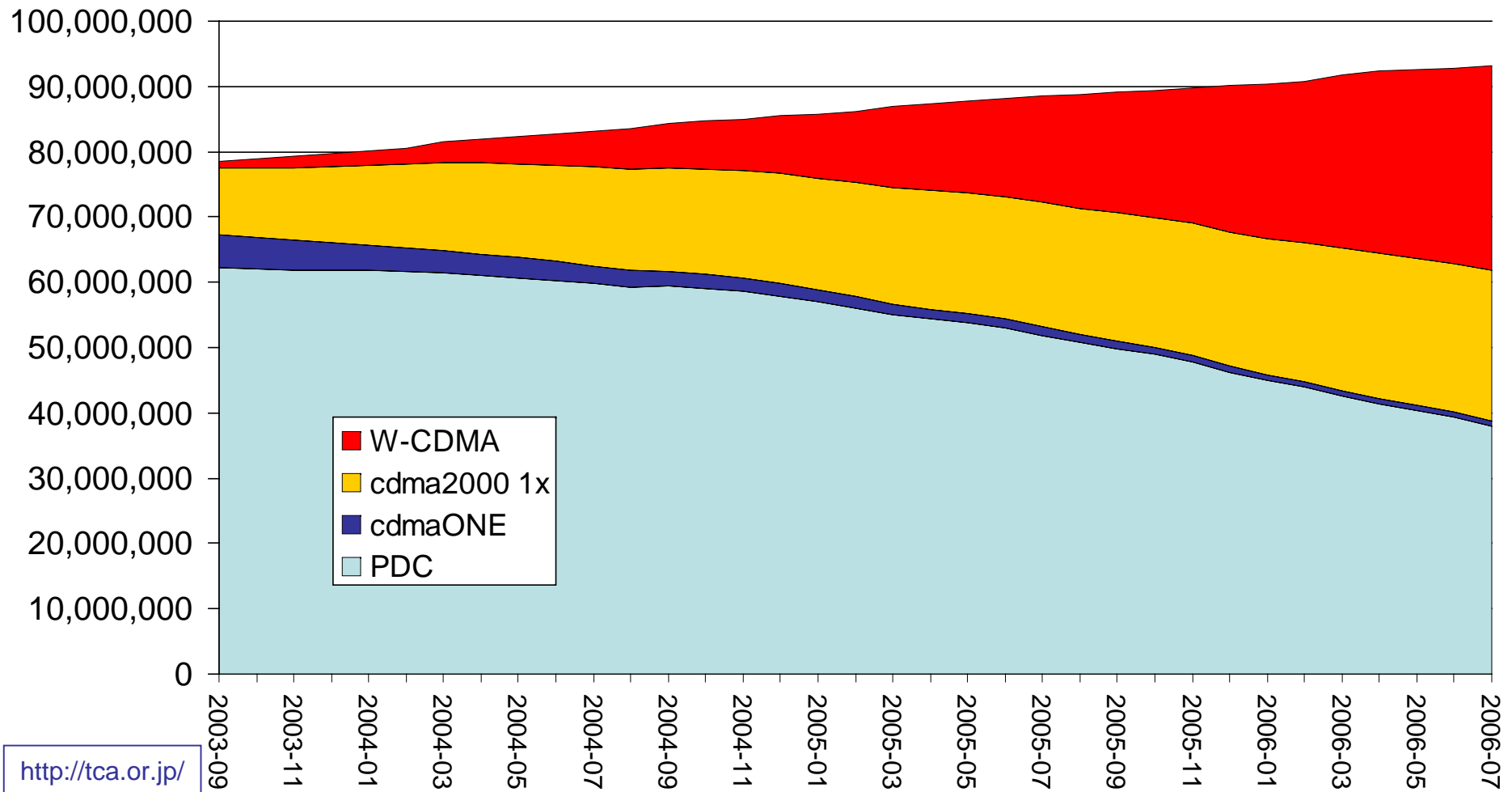
Alternative paths

- Wi-Fi
- WiMAX
- CDMA (e.g., cdma450)
- OFMD
- Digital broadcasting (DxB):
 - Digital Audio Broadcast (DAB)
 - Digital Multimedia Broadcast (DMB)
 - Digital Video Broadcast (DVB)

Changing geography



Japan switches to 3G



Continuing success

- Africa
 - 160 million customers
 - 17 per cent teledensity
- India
 - 100 million customers
- China
 - 400 millions customers

Conclusions

- GSM was much bigger than expected
- But its success killed other initiatives
- Mistakes were made in designing the markets
- The myth of its success delayed regulation
- Regulation remains piecemeal
- A culture of resistance is entrenched
- Trying to block WiMAX and to control mobile TV
- There is a single market only for manufacturers
 - not for operators
 - not for customers

Issues

- How competitive are these markets?
- Where are the real bottlenecks?
- What lessons should have been learned by policy makers?
- What can be done to remedy the errors of the past?
- What can be done to stimulate value added services? (mobile or converged)

Thank you

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