Assessing the Telecom Regulatory & Policy Environment in 8 Emerging Asian Economies

Manila, 3 Feb 2009

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Risk and investment in telecom

- Investment: the necessary condition for telecom sector performance
- Risk: primary decider of investment
  - Higher the risk, higher the rate of return expected by regulators
- Broadly, 3 types of risks
  - Macro Level/Country risks: political stability, exchange rates etc.
  - Market Risks: actions of competitors, availability of substitutable products, cost of capital to firm
  - Regulatory risks : emanating from government, including but not limited to actions (or inactions) of the regulator

Measuring/Quantifying Risk

- Macro Level/Country Risks
  - Not easily quantified
  - But comparative measures possible – e.g. Investment climate survey (WEF), Corruption Index (WB), etc.
- Market Risk
  - Easier to quantify (credit ratings → cost of capital)
- Regulatory Risk
  - Not easily quantified
  - But comparative measures necessary : one investor in multiple countries becoming coming
  - Subjective, but intuitively "known" to stakeholders

TRE: a tool to measure/compare regulatory risk due to policy maker/regulator's actions

- Short questionnaire, takes 5-7 minutes to complete
  - Makes minimal demands on senior level respondents
  - Do not want it filled by assistant
- Asks respondents to evaluate TRE on 7 dimensions
  - Market Entry
  - Allocation of Scarce Resources
  - Interconnection,
  - Regulation of Anti-Competitive Practices
  - Universal Service Obligations
  - Tariff Regulation
  - Quality of Service

Directly from GATS regulatory reference paper

central to regulator's activities

important as markets mature

- Each dimension evaluated on Likert Scale of 1 to 5
  - Minimum 1 = highly ineffective
  - Maximum 5 = highly effective
- 3 (sub) sectors evaluated
  - Fixed
  - Mobile
  - Broadband

3 Respondent categories. Weights to ensure even contribution to final score

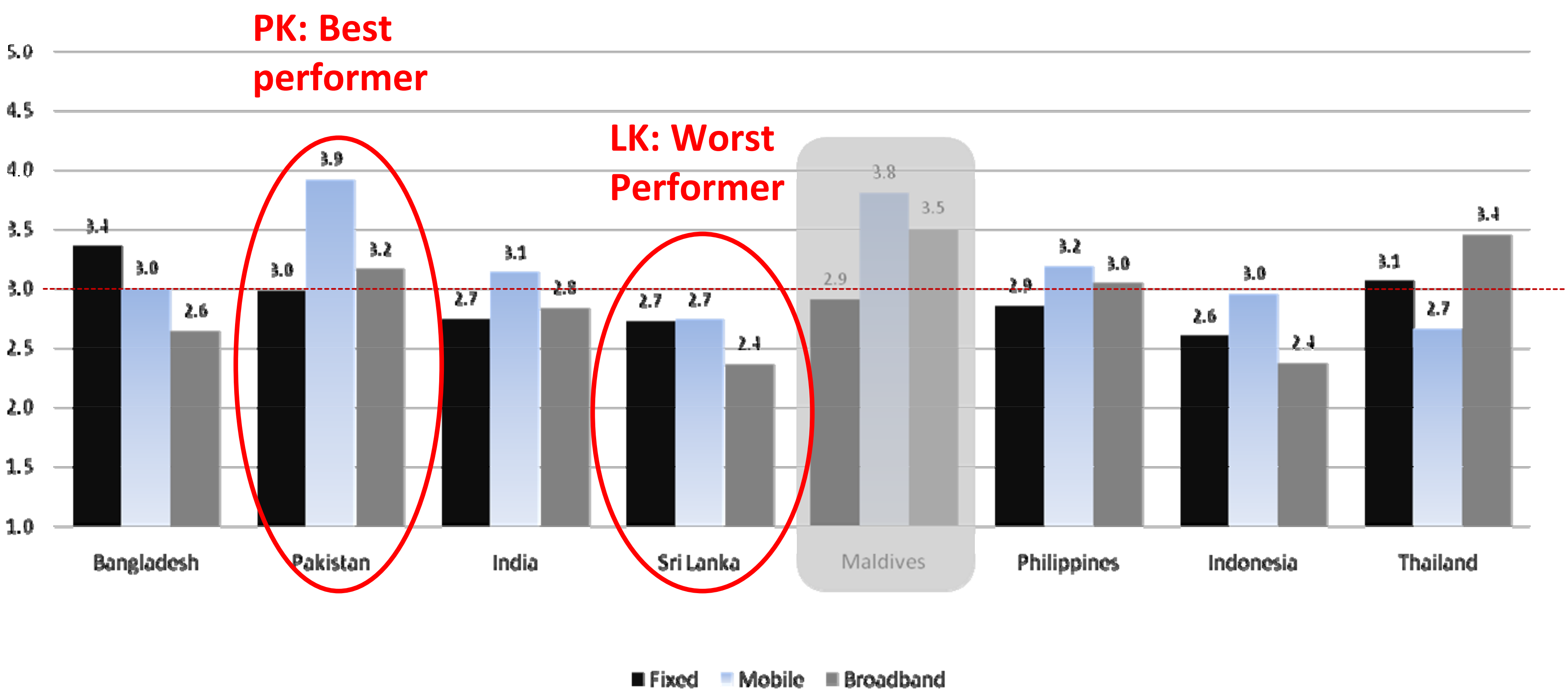
- Respondents fall into 3 categories:
  - Category 1: those directly involved in the sector such as operators, equipment vendors
  - Category 2: those indirectly impacted by the sector or those studying/observing the sector with broader interest such as consultants and lawyers
  - Category 3: those who represent the broader public interest such as media personnel, other government officials, retired regulators, civil society organizations
- Each category equally important.
  - But hard to predict number of completed responses in surveys
- Use weights to equalize each categories contribution to final score

A note on comparability

- Comparable countries are needed
  - E.g.: Maldives (microstate) vs. other larger markets
  - Monopoly or duopoly countries (e.g. in Africa, or even Maldives) - no one will comment/express opinions honestly

2008 survey results: winners & loosers (best & worst practices)

Market Entry: PK leads with clear (yet expensive) licensing conditions. LK low scores rleated to delays in AirTel entry into market



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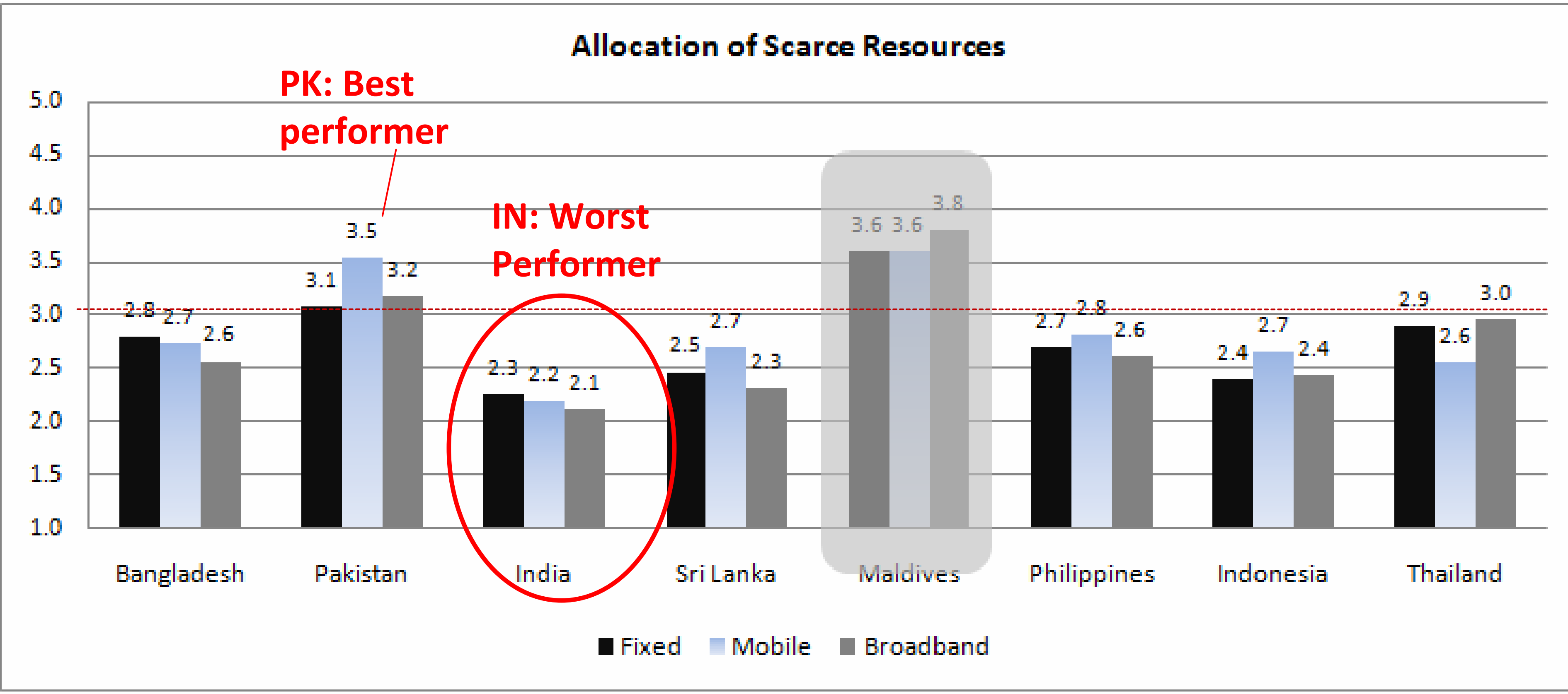
PK: Expensive but transaprent licensing conditions; no restrictions on foreign ownerhip

- Clear rules: payment of fee guarantees license renewal
  - Even though very expensive @ USD 291 MM, price at least based on auction value
- Unbundled licensing for fixed
  - investors can enter, offer services in area of their choice
- MNP since 2007
  - even smaller (new entrants) have a fighting chance at capturing market share
- No limitations to foreign ownership, M&A activity
  - USD 1.4 billion in FDI in 2007-2008; accounts for 27% of all of Pakistan's FDI
- Result: 3rd fastest growing Telecom sector. FDI in telecom 27% of PK total FDI

LK: No transparent licensing. No auctions. Not even a competition

- 5th license offered to Bharati Airtel
  - No auction
  - Not even clear if open tender (even if beauty context)
  - Reports of payments
- 21 months to become operational
  - License granted April 2007.
  - Barely operational by Jan 2009
- At the time of survey, even general public expressing concern over Airtel's delays/problems

Allocation of Scarce Resources: PK fast response gives certainity. India's bungles of 3G and 2G spectrum creating negative impact



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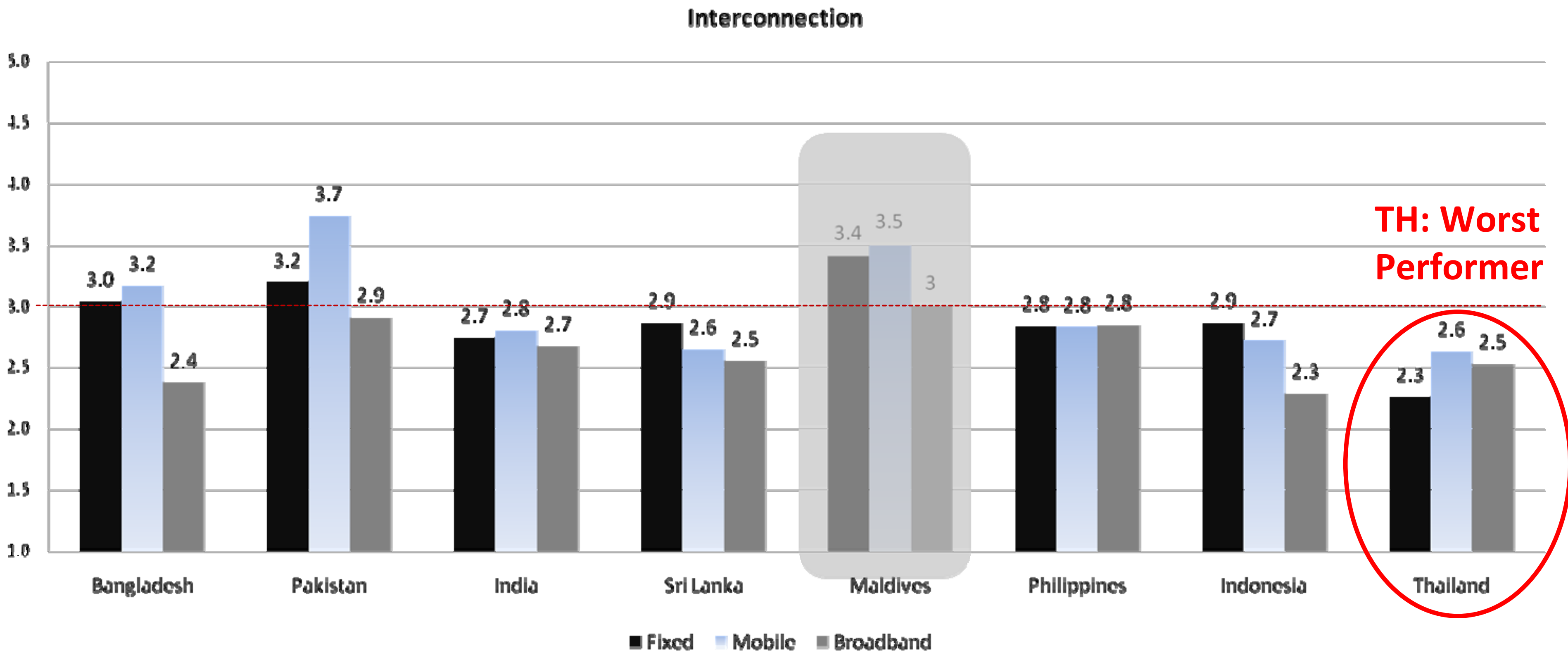
India: nowhere close to allocating 3G spectrum. 2G players also unhappy

- Spectrum allocated administratively.
- Amount of spectrum linked to subscriber numbers
- Average amount of frequency per operator low
  - World average 17.18 MHz; India 6.2MHz
  - GMS operators loading spectrum well above benchmarks
- Govt, defense sitting on valuable spectrum
- Huge controversies over 3G allocation
  - Battle between existing vs. new players.
  - Headlines in newspapers, letters to PM, DoT etc.
- 2008 TRE scores worse than 2006 even

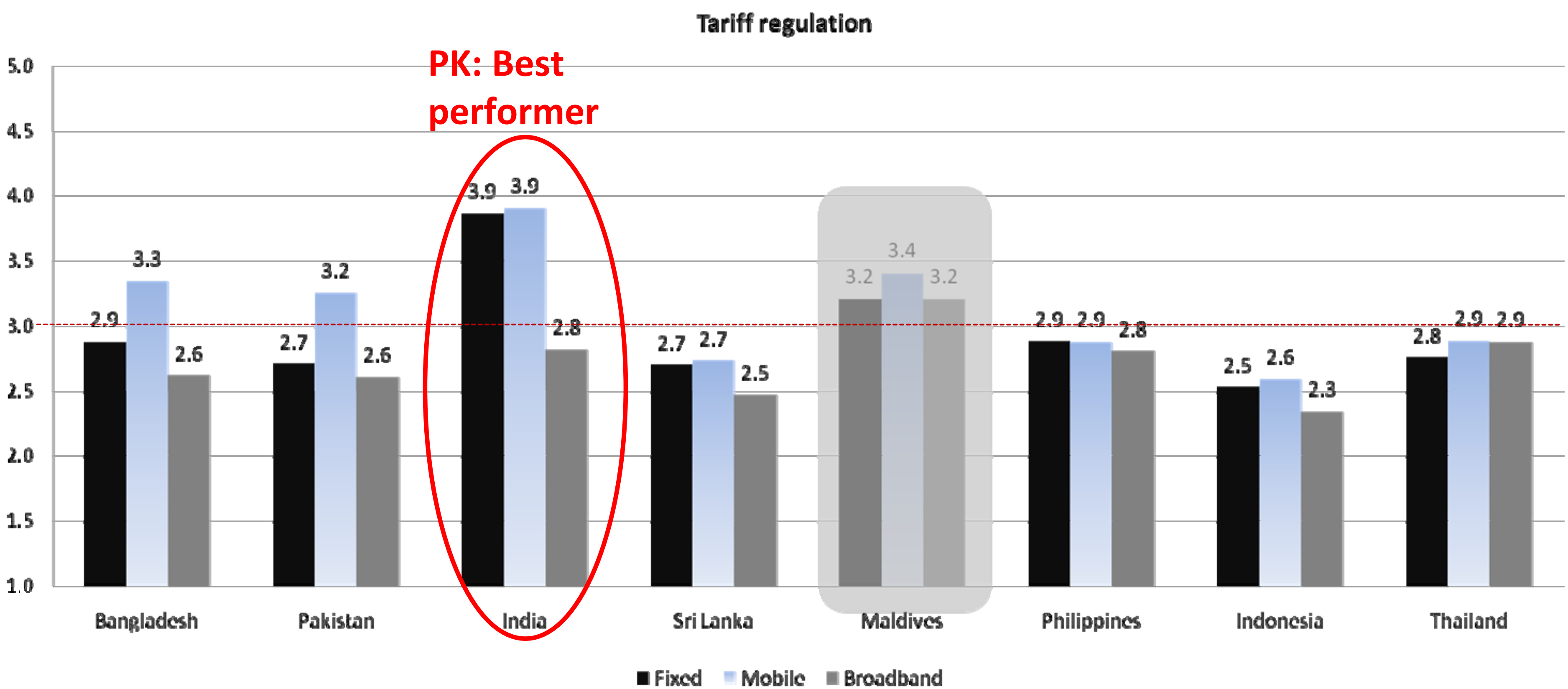
Interconnection: Thai concessessionairs subject to unsustainable IC rules by state operators



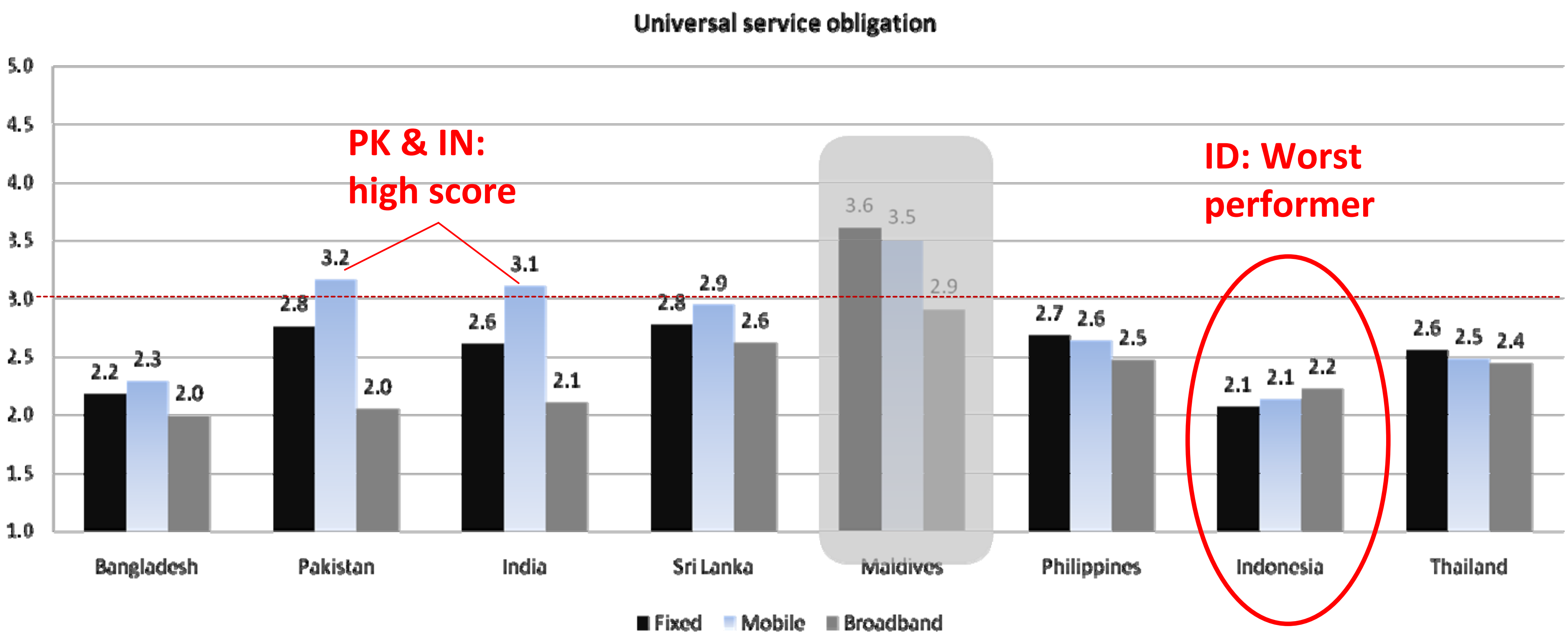
Thailand: concession regime staks the cards against non-state-sector operators

- Private concessionaires legally owned by two state operators (TOT & CAT, the only two license holders)
- All interconnection negotiated via TOT/CAT
  - Private operators mere contractors
- E.g. CATs concessionaires (DTAC, True Move)
  - Pay TOT flat fee of USD 5.8 per moth per post-paid SIM
  - Pay TOT 18% of revenue per pre-paid SIM
- Concessionaires refuse to pay TOT since 2006
- Interconnect amongst themselves

India: some of the lowest tariffs in the world. Regulator does not regulate prices



ID: Operators charged 0.75% of revenues, but funds undisbursed. PK collects 1.75% but has already allocated (to mobile and fixed)



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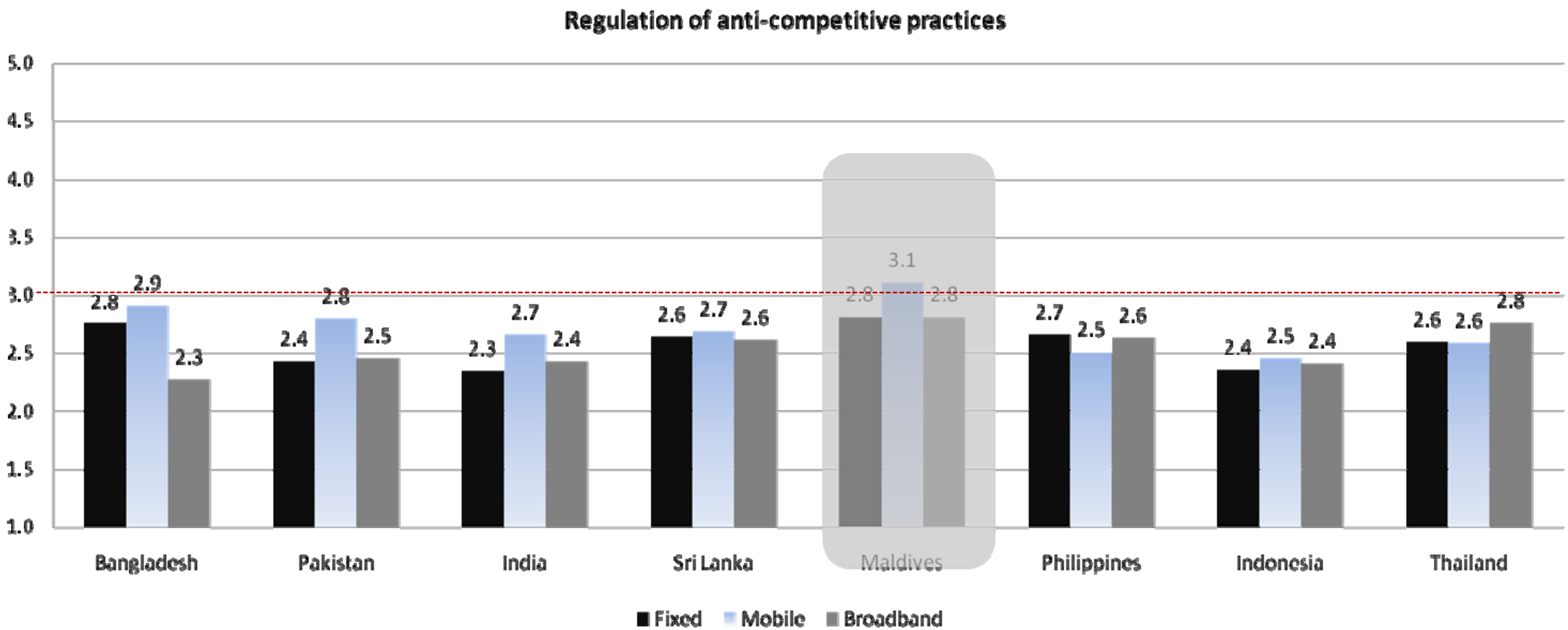
ID: Current USO scheme another step in a line of failed policies

- Initially: Force incumbent to invest 20% of revenues in rural connectivity
  - Order not followed by incumbent
- Then: government funds to set up telephone units in ~ 3000 villages using satellite connectivity
  - Only contribute towards achieving 15% of universal service targets
- …etc…
- Now: all operators pay 0.75% of revenues towards USO fund
  - Collected funds undisbursed (cancelled and halted tenders)
  - Low penetration: 6.5 (fixed) and 35 (mobile) phones per 100 people.

Anti-competitive Practices: everyone scores well below average. General unhapiness by new entrants and incumbents



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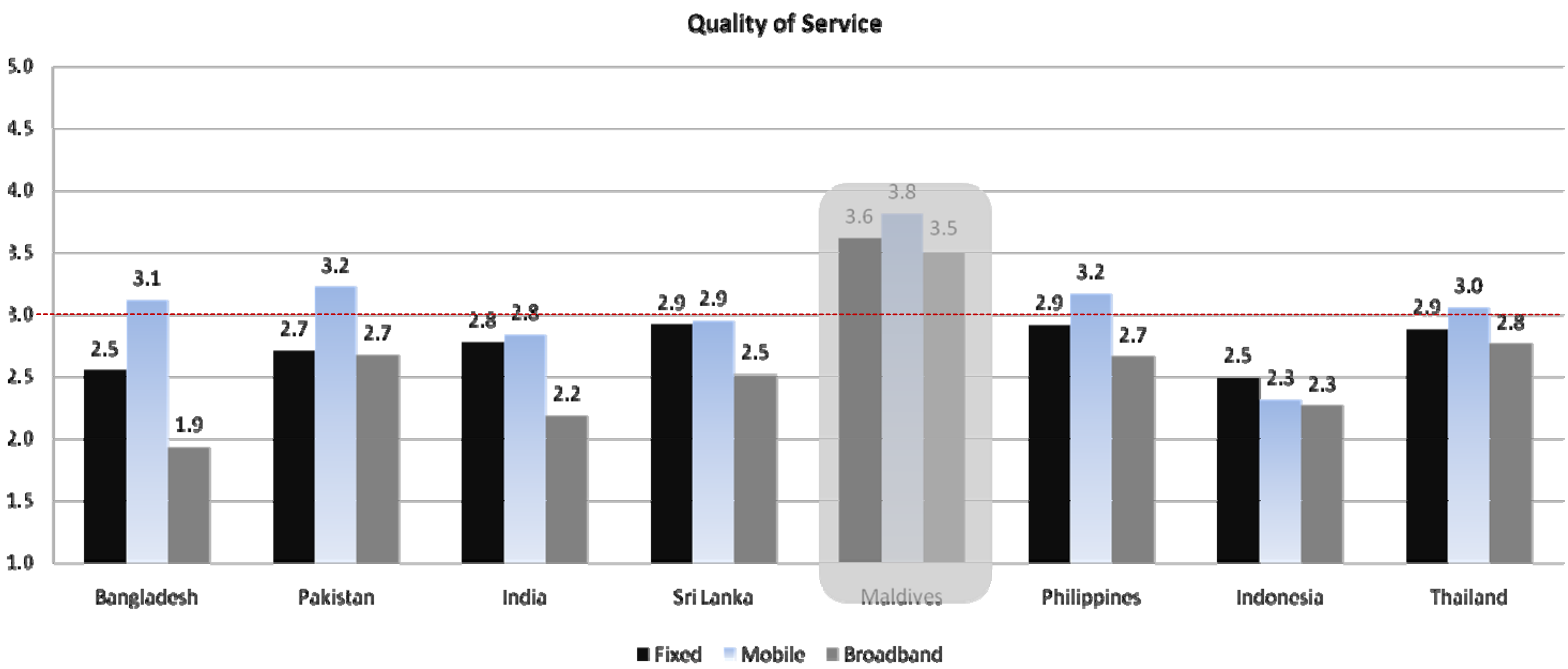
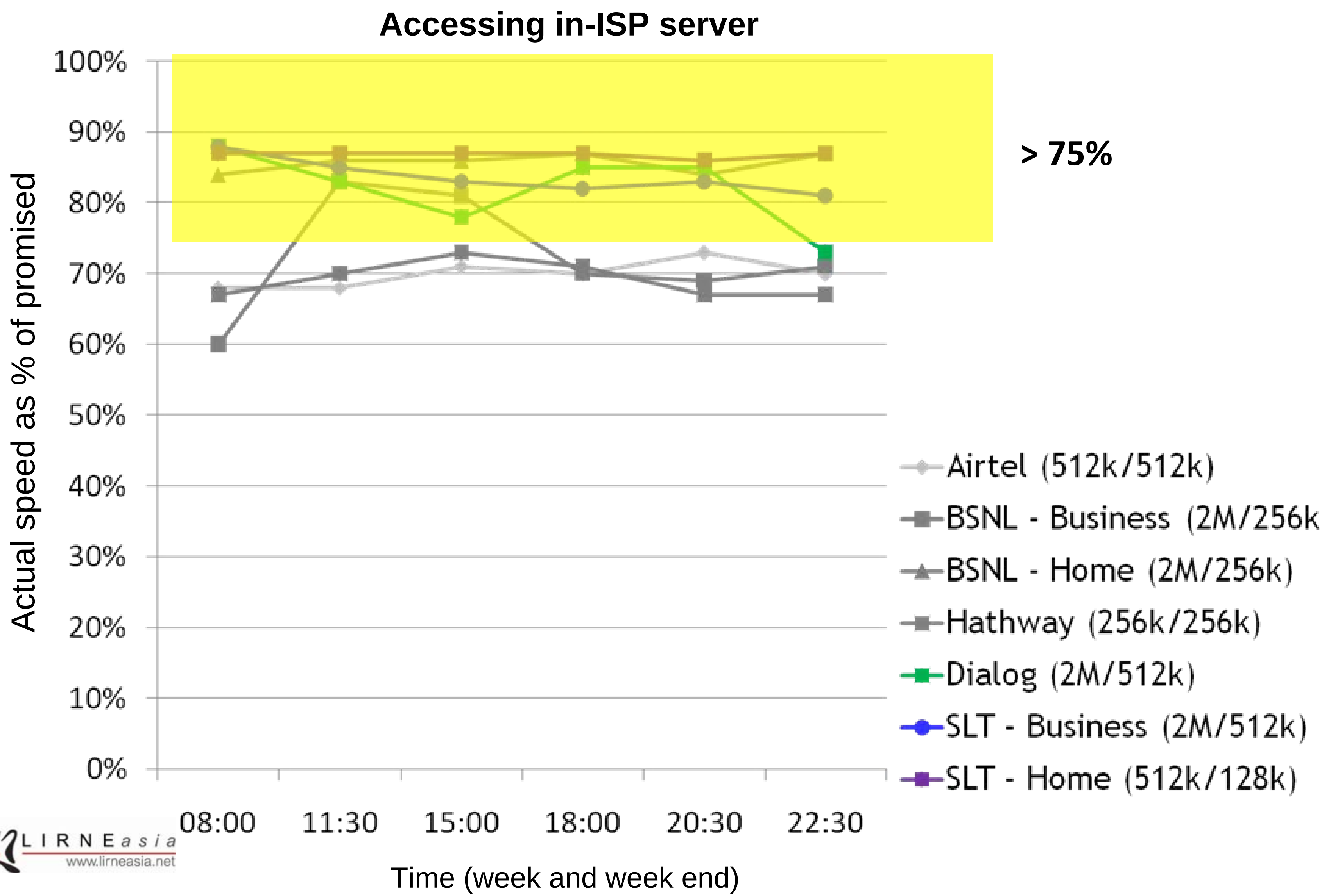
All countries: unhappiness of incumbent legacy and "how" rules are made

- New entrants feel new entrants being favored
  - Or that regulator is not strong enough to order incumbent
- Incumbent feels they are unfairly punished/regulated
- Actual bias/regulatory capture vs. hands being tied due to legacy
  - E.g. incumbent staff working at regulator/policy maker (BD, IN)
  - MV incumbent license expiry creates conditions for opening market, not before
- Many countries lack of separate competition authority
  - Or clear duties when one does exist

QoS: Broadband signifantly worse. Mobile better, but operators compromising Quality in going for "budget telecom" model



International Bandwidth:bottleneck in BB quality, specially with most access content lying overseas



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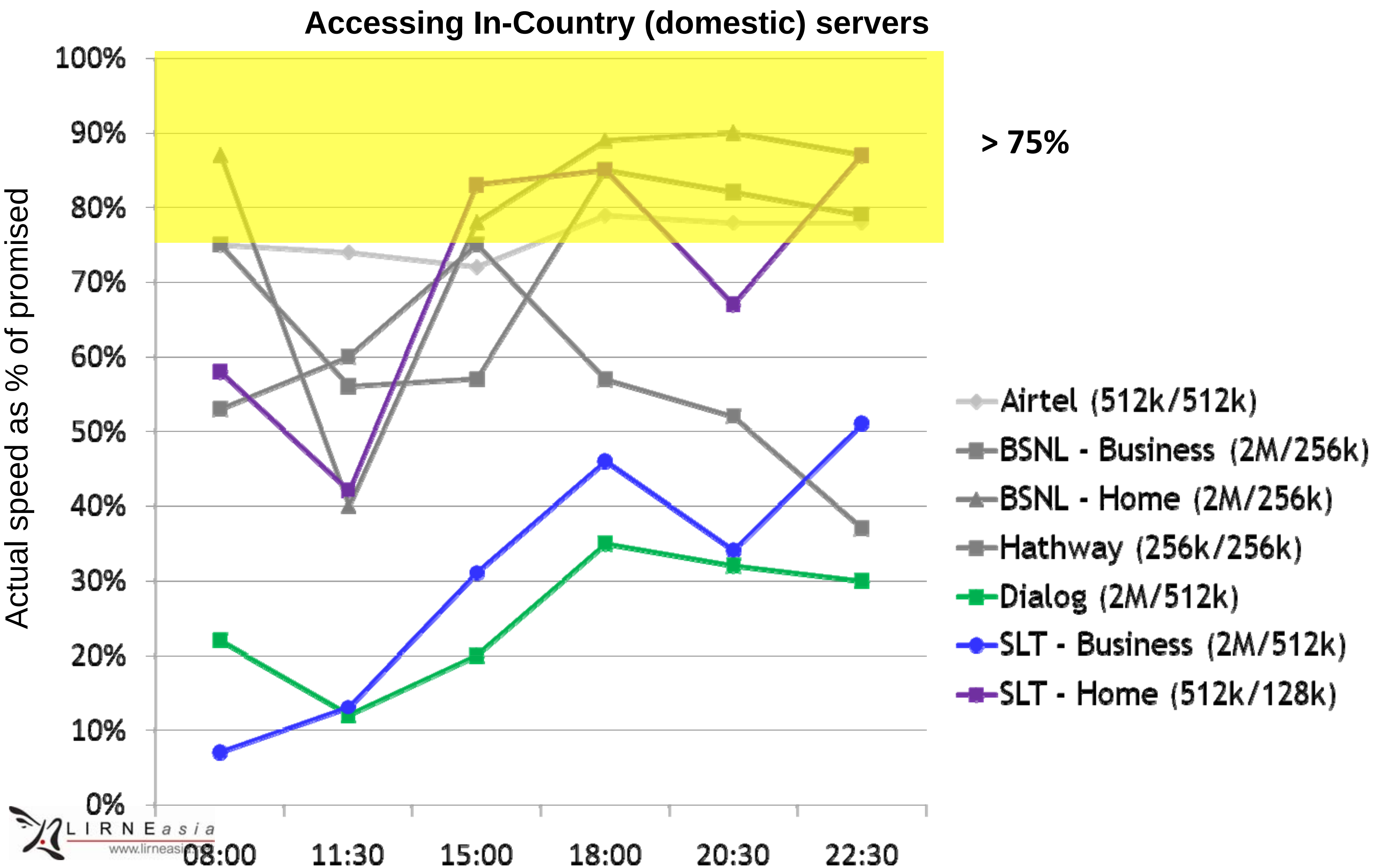

Accessing In-Country (domestic) servers
Actual speed as % of promised
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
08:00
11:30
15:00
18:00
20:30
22:30
> 75%
Airtel (512k/512k)
BSNL - Business (2M/256k)
BSNL - Home (2M/256k)
Hathway (256k/256k)
Dialog (2M/512k)
SLT - Business (2M/512k)
SLT - Home (512k/128k)
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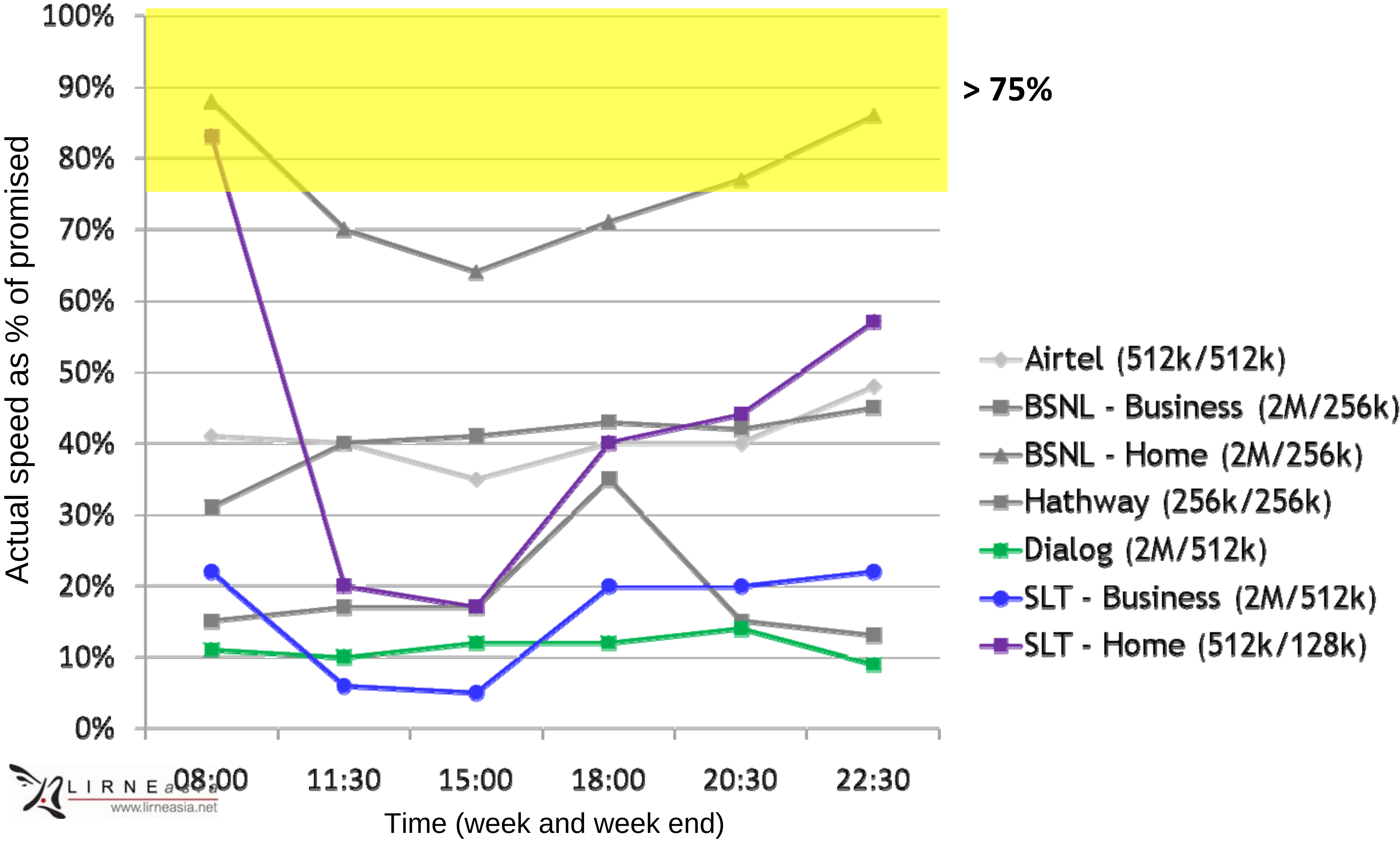
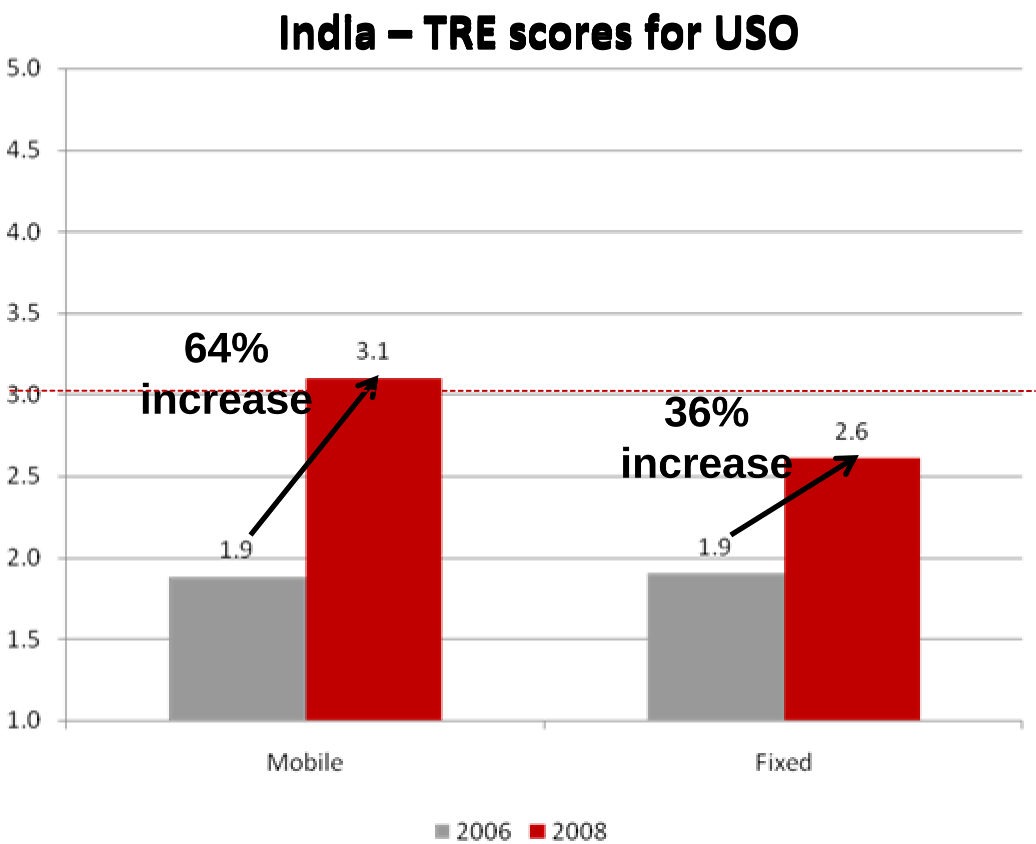
Accessing International Servers



Using TRE scores to track regulatory performance over time

Example: India

India – 64% jump in USO scores from 2006 to 2008. Stakeholders rewarding significant changes in USO policy made during the time.



- Before: only fixed eligible for USO funds
  - Mobile companies paid 5% of revenues to USF
  - Lowest TRE scores in region in 2006
- In March 2007: mobile sector allowed to receive funds
  - Increase in TRE scores
- But still USD 4 billion undisbursed
  - 2nd largest in world
  - TRE scores barely above average

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Real value is using TRE scores to diagnose a country's regulatory dimensions

In depth analysis of the TRE in the Philippines

Dr. Erwin Alampay

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