

# Sector & regulatory indicators: Why should regulators & operators care?

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# Agenda

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- Why care about showing good performance?
- Telecom regulatory performance
  - LIRNEasia's TRE methodology
- Sector performance as a proxy for regulatory performance
  - Four principal dimensions of performance
  - Generating and presenting performance data
    - If time permits, communication strategy



# Why measure performance of any organization?

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- At organizational level
  - Accountability to “owners” (the public, shareholders, . . . ) & stakeholders
  - Respond to external threats
- At level of individuals
  - Diagnose problems and improve performance
  - Obtain resources /improve compensation /enhance career prospects

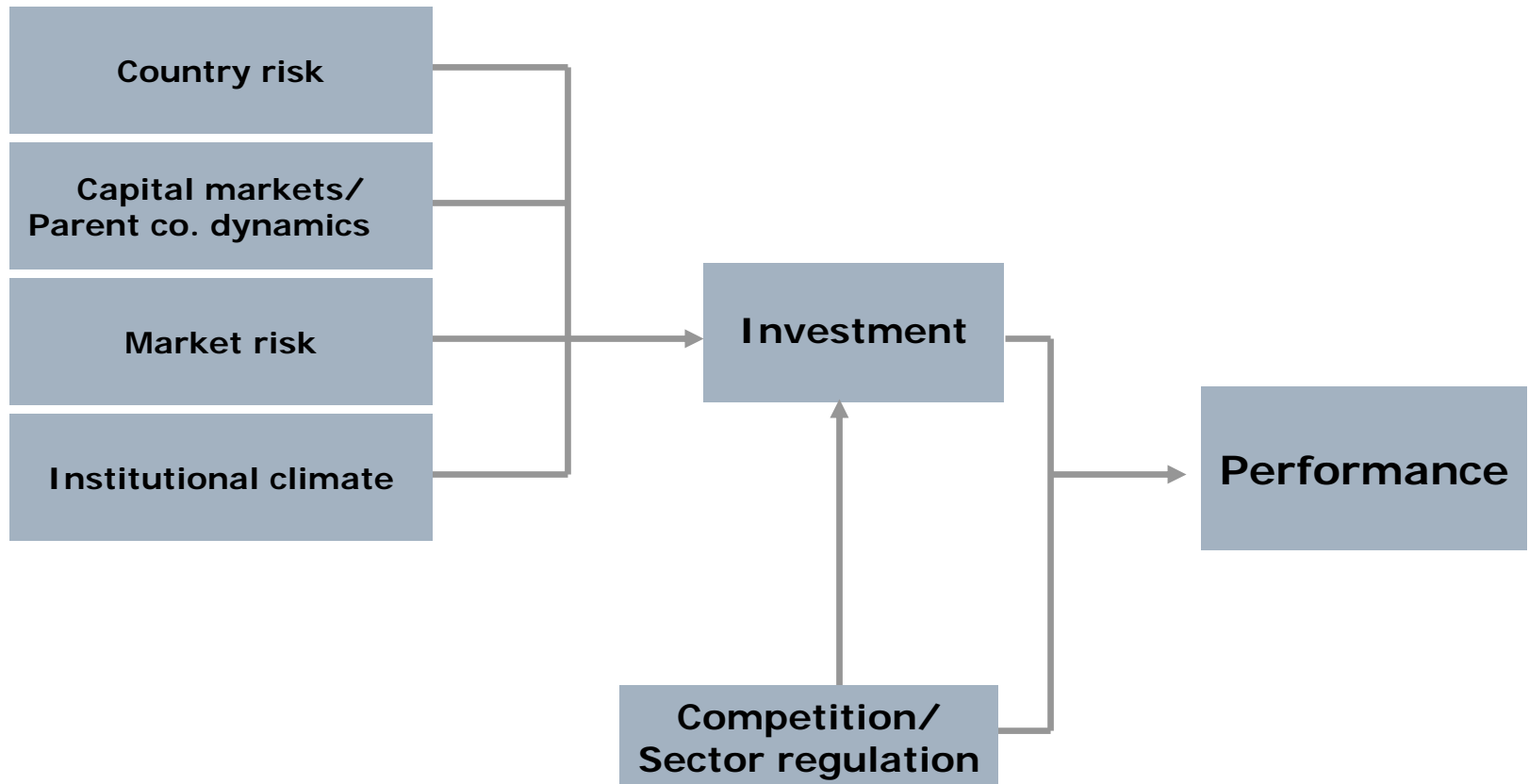


# Anything special about infrastructure regulatory agencies?

- High stakes/visibility
  - High capital costs/low variable costs → investors vulnerable, therefore likely to be aggressive
  - Monopoly tendencies/large number of consumers/essential nature of product → high likelihood of politicization
- Created in process of ending integrated government-owned monopoly environment → high expectations/vulnerability of new regulatory agencies



# Causal chain



Open system, where it is not possible to hold other things constant; competition/sector regulation affects investment AND industry performance

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# Investment and TRE

- Necessary condition for good performance = investment
- Significant and controllable factor that affects investment = sector-specific regulation
- What really matters in investment decisions is **perception** of risk
- Instead of looking at objective measures of regulatory performance (which is quite difficult) why not go straight to perception?
  - As an investment driver, perception is not second best, **it is the first best**



# How are investor perceptions formed?

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- Primarily from the symbolic environment constituted by
  - Investment research reports and investment firms
  - General and specialized media
  - Opinion leaders
  - Intra industry; intra-firm
  - NOT by public opinion
- Secondly from direct observation of regulatory entities



# Method

- Panel studies using as small a number of questions as possible
  - Effective perception studies are conducted using one question alone
  - Need to make minimal demands on time of senior respondents such as CEOs
- Use as large a number of respondents as possible to balance out the biases; also use statistical methods to reduce bias caused by group representation
- Use traditional social-science perception instrument: 5-point Likert scale
- Focus on telecom **regulatory environment not on regulatory agency per se**
  - In India, three dimensions reflect TRAI performance; three reflect DoT performance
  - In Pakistan, PTA controls five and significantly influences sixth Samarajiva LIRNE.NET





# Method

- Five dimensions from GATS regulatory reference paper (document with greatest international legitimacy) + price regulation
  - Others to be added in 2008
    - Service-quality regulation
- TRE studies being conducted in Latin America and the Caribbean and Africa
- Asian six-country study conducted in August-October 2006
  - Building on pilot conducted in 2003:  
<http://www.regulateonline.org/content/view/207/65/>



# Panel composition: categories

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- Category 1 : Operators, industry associations, equipment suppliers
- Category 2 : Financial institutions, private investment houses, banks and credit rating agencies
- Category 3 : Educational/research organizations, telecom consultants, law firms
- Category 4 : Journalists, telecom user groups, civil society, former members of regulatory/other government agencies



# Panel Composition

		Pakistan	India	Indonesia	Sri Lanka	Philippines
Category 1	Count	14 (35%)	16 (32%)	40 (67.8%)	21 (20.8%)	19 (36.54%)
	Weight	0.71	0.78	0.37	1.20	0.68
	Weighted Count	10	12.5	14.5	25.25	13
Category 2	Count	2 (5%)	4 (8%)	2 (3.4%)	17 (16.8%)	2 (3.85%)
	Weight	5.00	3.13	7.38	1.49	6.50
	Weighted Count	10	12.5	14.5	25.25	13
Category 3	Count	16 (40%)	16 (32%)	11 (18.6%)	21 (20.8%)	16 (30.77%)
	Weight	0.63	0.78	1.34	1.20	0.81
	Weighted Count	10	12.5	14.5	25.25	13
Category 4	Count	8 (20%)	14 (28%)	6 (10.2%)	42 (41.6%)	15 (28.85%)
	Weight	1.25	0.89	2.46	0.60	0.87
	Weighted Count	10	12.5	14.5	25.25	13
<b>Total</b>		<b>40</b>	<b>50</b>	<b>59</b>	<b>101</b>	<b>52</b>



# Countries

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- Pakistan
- India
- Indonesia
- Sri Lanka
- Philippines
- (Thailand)
  - Included in original study, but excluded from analysis because of low response rate & coincidence with Shinwatara scandal

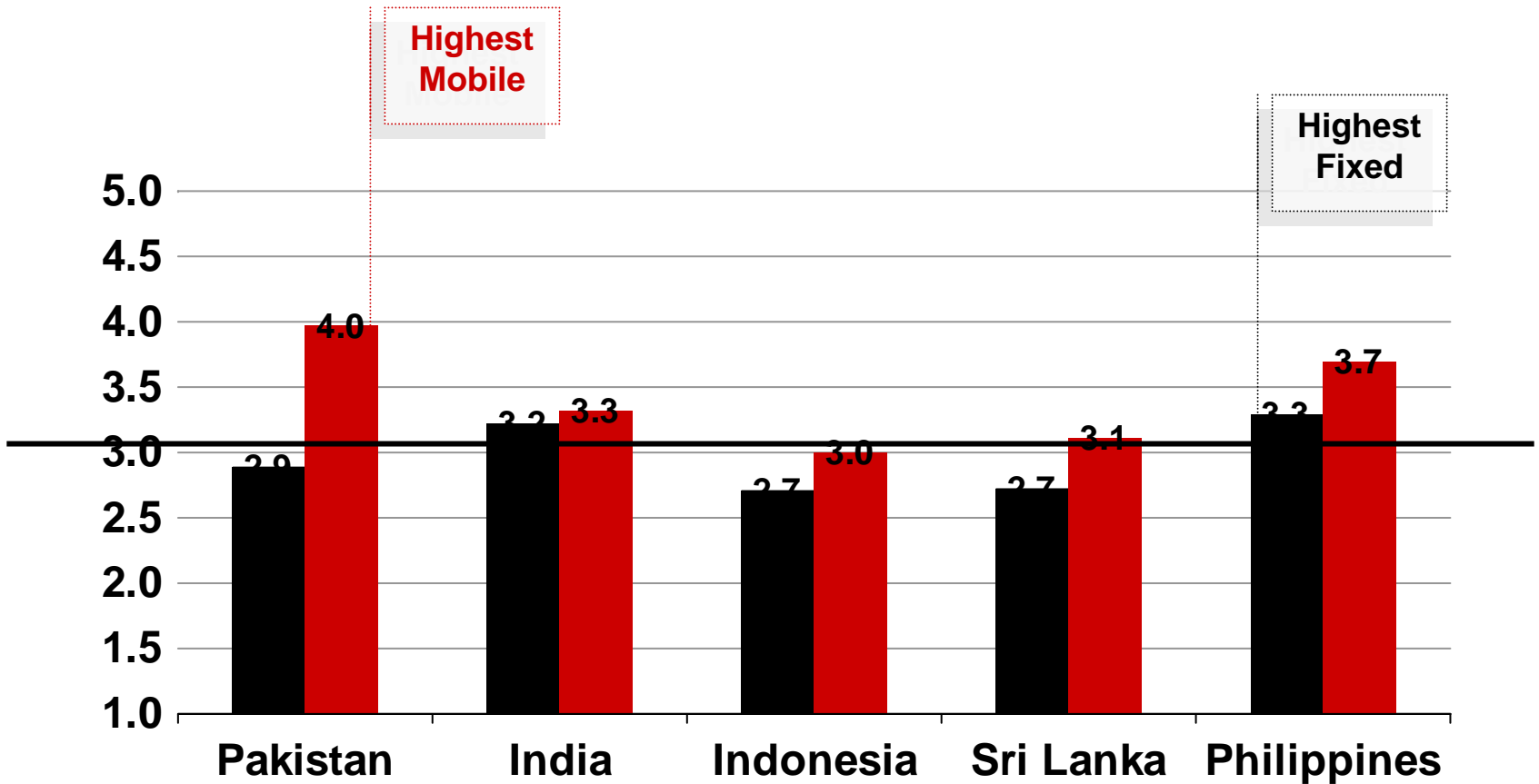


# Detailed analysis, across each of six dimensions

- Countries arranged in order of per capita GDP (Purchasing Power Parity), with Pakistan (PK) lowest and the Philippines (PH) highest
- Numbers reported are average scores, rounded to one decimal
- Midpoint (3) as threshold of adequate performance
- Analysis by each of the six dimensions is a useful diagnostic tool
  - Does the score reflect the self-perception of the responsible entity?
  - If not, perhaps more has to be done to communicate its actions



# Market Entry



■ Fixed ■ Mobile

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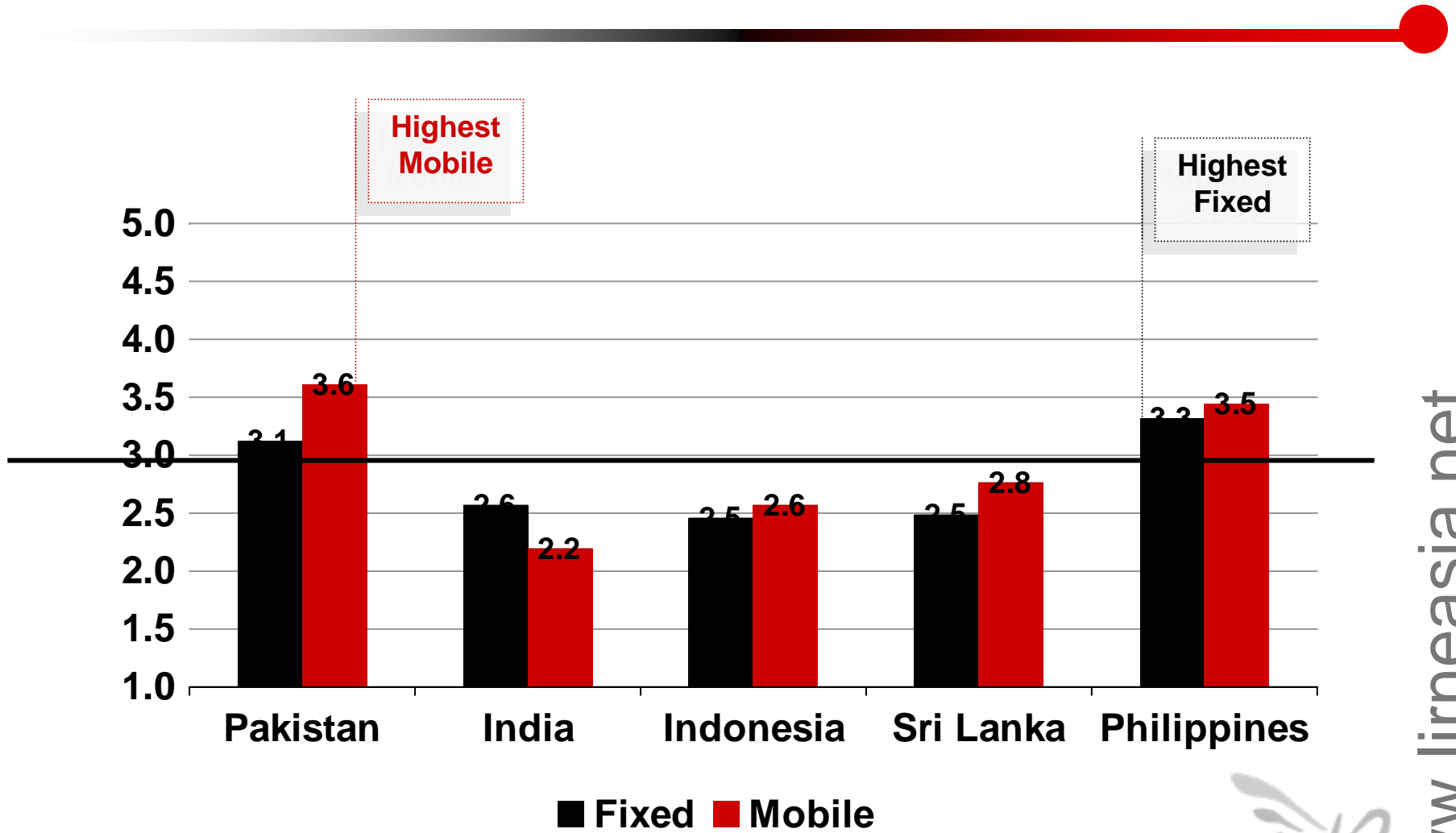
# Market entry

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- ❑ Pakistan mobile well above threshold, but fixed below
- ❑ IN and PH above threshold in both fixed and mobile



# Access to scarce resources



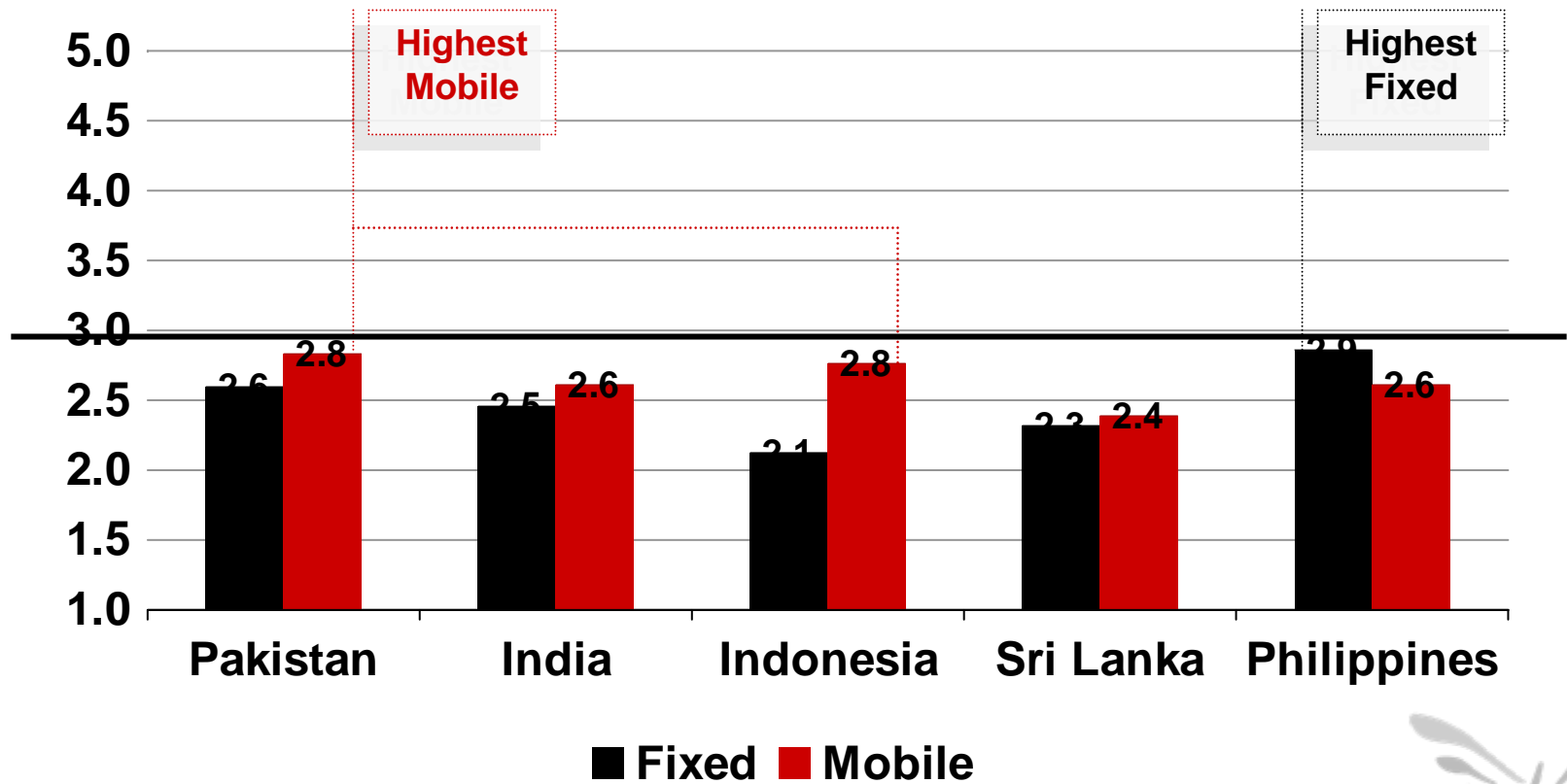
■ Fixed ■ Mobile

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# Interconnection



■ Fixed ■ Mobile

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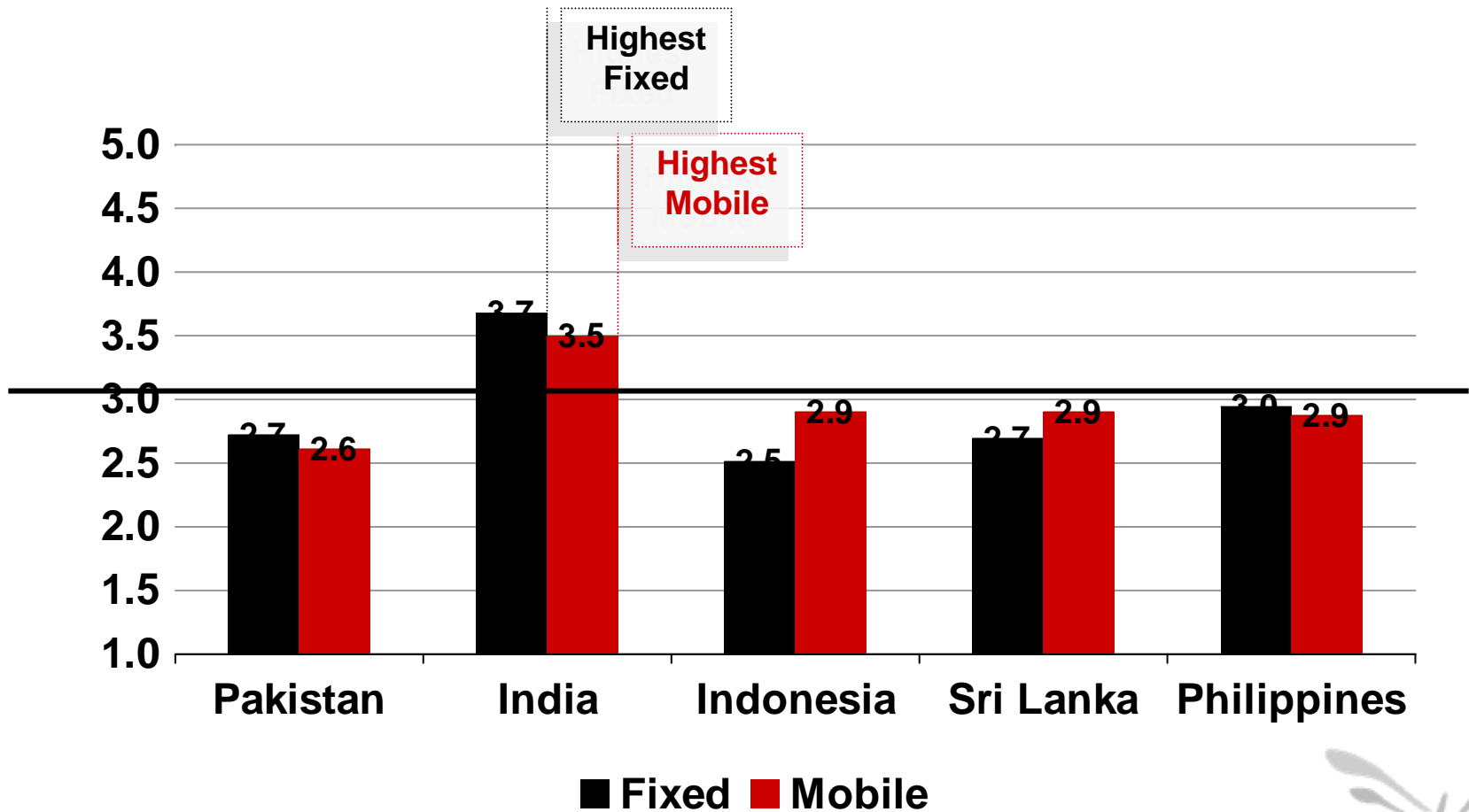
# Interconnection

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- ❑ Everyone is below the threshold
- ❑ Interconnection continues to be a difficult challenge for regulators



# Tariff regulation



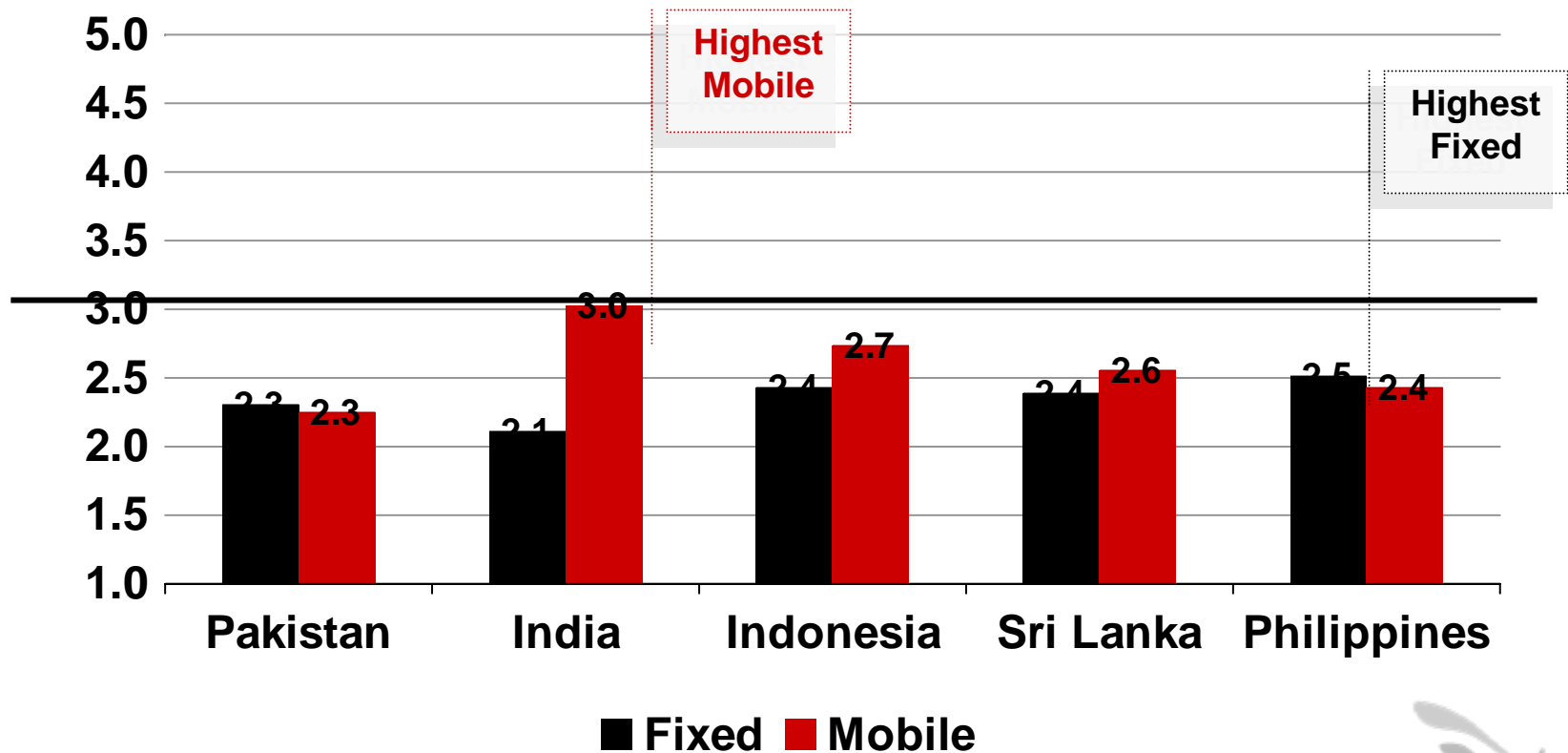
# Tariff regulation

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- Only India, the country that has forborne almost all tariff regulation is above threshold
- Given PK and LK prices, it appears that IN is being rewarded not just for low prices but for the efficacy of its procedures
  - Less regulation → high TRE?



# Regulation of anti-competitive practices



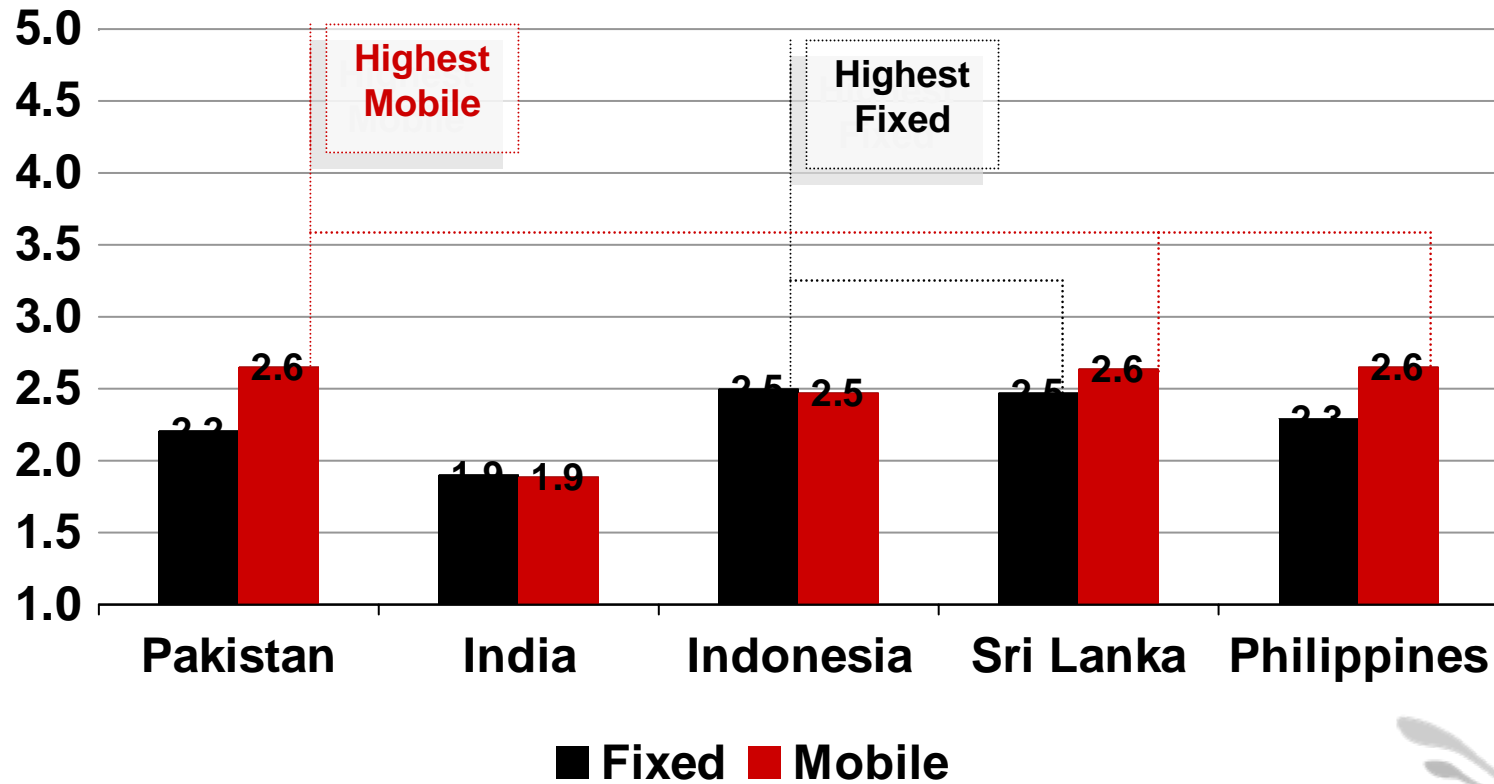
# Anti-competitive practices

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- Only India mobile is reaches the threshold
- Big gap between India mobile and India fixed
  - BSNL?



# Universal service obligation



■ Fixed ■ Mobile

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# Universal service

- India has world's second largest USO Fund and has done several disbursements
  - Yet, worst performance among the dimensions and within the group
- Sri Lanka which had done nothing re USOs and does not collect USO contributions from operators (only from international) gets high scores
  - Less is more?
- Everyone has poor scores





# Not intended to be a country ranking as such . . .

- But natural to look for elements to emulate in the leader
  - In the dynamic mobile sector PK has highest overall score, closely followed by PH
  - In the fixed sector, PH leads, with PK and IN almost tied for second place
  - ID and LK have cause for concern
- Overall
  - Mobile TRE > Fixed TRE
  - All countries have a long way to go to achieve satisfactory performance, only PK mobile and PH fixed and mobile even come close to threshold
- Tracking performance over time will yield even better data for assessing regulatory performance



# Sector performance

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- Where regulatory performance is not measured, sector performance can be proxy
- But sector performance must be measured in any case
  - Sector performance is the end; regulation is the means
- Regulator is seen as the apex authority for the sector and is generally responsible for data collection
- Can use sector performance data to protect/advance sector/agency



# What is sector performance?

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- Connectivity
- Value for money
  - Price
  - Quality
- Choice of product configurations



# Additional dimensions of sector performance?

- Investment, foreign and domestic
  - Important if increased investment is a government priority
  - But investment is a pre-condition of improving performance for end-users
- Sector revenues
- Operator profitability
- Contributions to the exchequer
  - Taxation (less leakage than other sectors)
  - Proceeds of privatizations, auctions, etc.
- Employment creation
  - Difficulties of getting an accurate fix in post-monopoly environment



# Connectivity

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## How defined?

### ■ Demand side

#### From government and other surveys

- Illustrate using LIRNEasia's 2006 Teleuse @ Bottom of the Pyramid (T@BOP2) survey results

### ■ Supply side

#### Subscribers/customers?

#### Users?

#### SIMs?



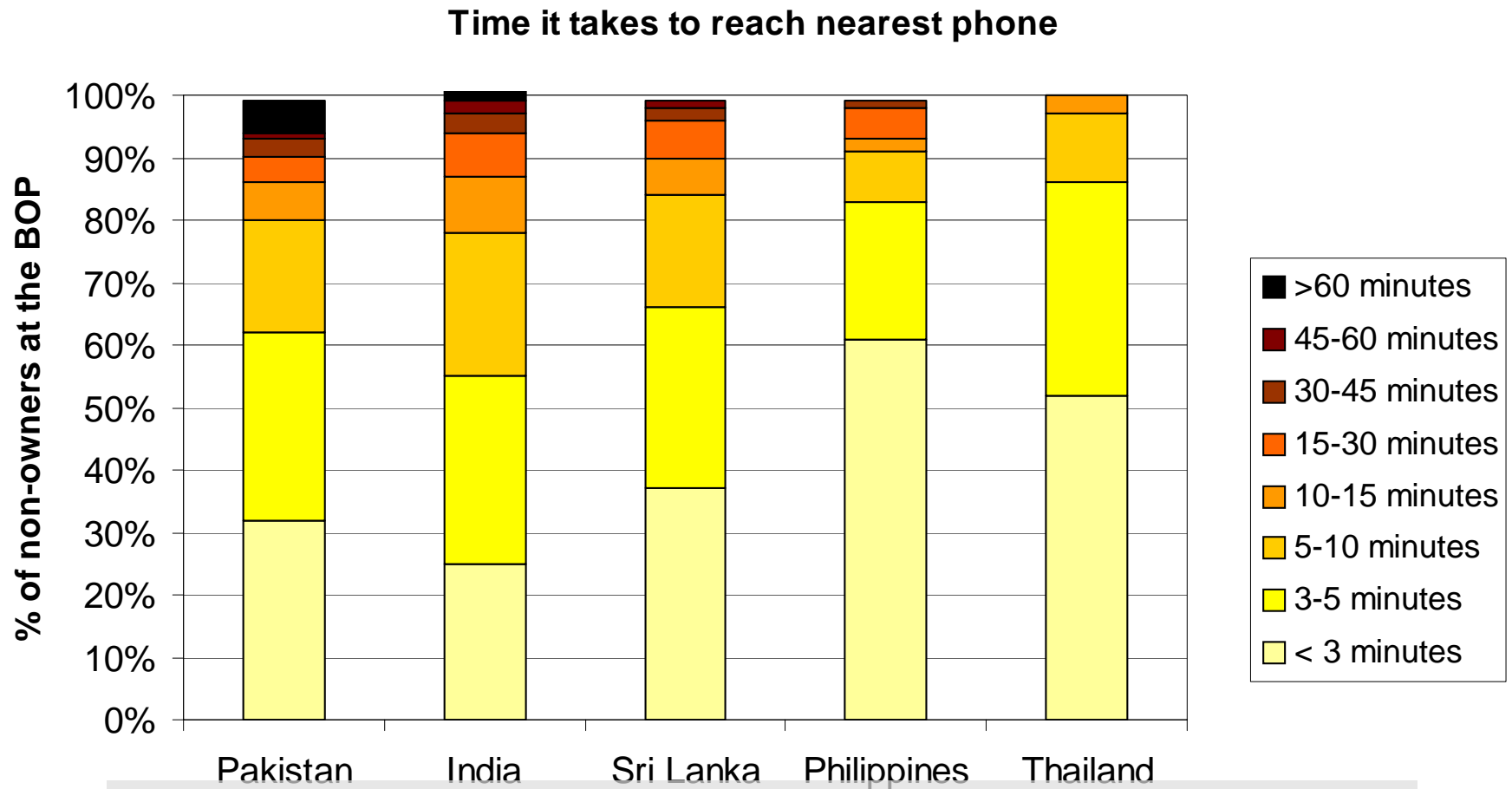
# Overall access is very high

- Most have used a phone in the last 3 months

	South Asia			South East Asia	
	Pakistan	India	Sri Lanka	Phil.	Thailand
<b>Accessibility</b> (% of those randomly approached (all SEC groups) who have used a phone in the preceding 3 months)	98%	94%	92%	93%	95%



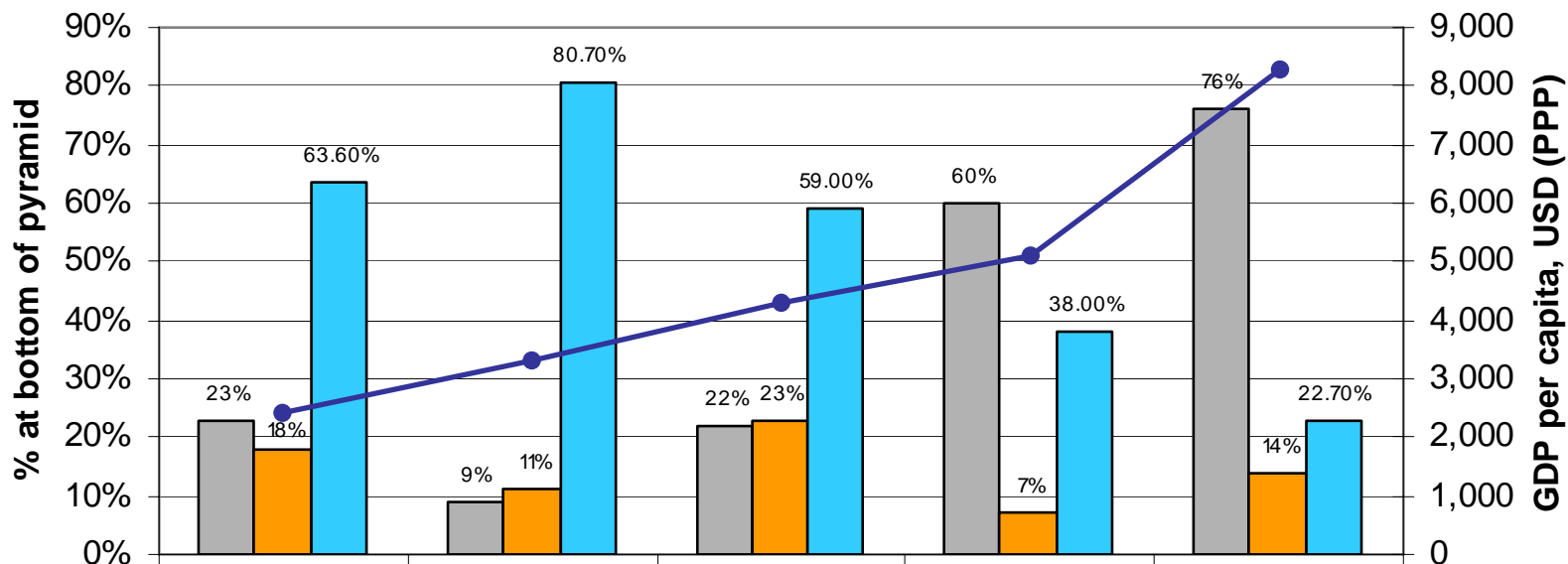
# Most non-owners can reach a phone within minutes



Around 60% at BOP in all countries can get to a phone in less than 5 minutes

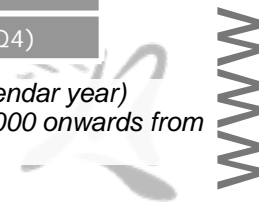
# But ownership is low

Ownership and GDP per capita (USD, PPP)



	Pakistan	India	Sri Lanka	Philippines	Thailand
Total number of phones per 100 population	29.4	13.4	36.6	45.4	56.7
	(2006 Q4)	(2006 Q1)	(2006 Q4)	(2005 Q4)	(2005 Q4)

Notes: India on an April – March reporting period ; Pakistan on a July – June reporting period; Other countries follow Jan – Dec (calendar year) reporting periods. Sources: India-COAI, TRAI; Thailand-Company Reports; Pakistan-PTA; Philippines-NTC; Sri Lanka- TRC; 2000 onwards from company reports; World Bank (2006); CIA Fact Book (2005)





# Disputes re number of customers/users

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- Lack of definition of a mobile customer
  - Incentives to overstate (if frequencies are given on this basis as in India)
  - Incentives to understate (if ARPU is important to market analysts)
  - Impossibility in a dynamic marketing environment (e.g., Reliance's lifetime offer)
- Arbitrary reporting on Internet users
  - ID simply multiplies subscribers by 10



# Value for money

## □ Price

### ■ What units?

□ Baskets v. technical units (minutes, bytes, etc.)

□ Monthly Total Cost of Ownership (TCO)

## □ Quality, e.g.,

■ % of faults repaired within x hrs

■ Congestion & other data captured by exchanges

■ Complaints?

■ Special case of interconnection QOS



# Choice

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- Much more difficult to quantify
- Simple lists of call plans, packages, etc.
- Any ideas?



# Generating performance data

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- ❑ Integrated monopolies generate data, but they may not be the most appropriate for liberalized environments
- ❑ Need to work with national statistical organizations
- ❑ Regulatory agencies need to assign high priority to data collection and analysis
- ❑ Focus of Workshop on 14-15 June 2008



# Presenting performance data

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- ❑ Static v dynamic
- ❑ Corrected for population
- ❑ Importance of using common definitions for inter-country comparisons
- ❑ Basics of benchmarking
  - Should Sri Lanka be compared with India or with Karnataka?
  - Should micro states be compared only with each other?
- ❑ Balanced score cards?



# Communication: if sector performance is not good (1)

- Performance is many-faceted
  - If absolute numbers are not good, go for growth
  - If growth is not good, shift to different aspect
    - One year is bad use CAGR or vice versa
  - If nothing looks good,
    - Highlight the constraints
    - Change the peer group
    - Question the methodology . . .



# If sector performance is not good? (2)

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- The right answer
  - Make it good
  
- Or find something else to do with your life



# Communication example: Sri Lanka-Pakistan -- actual case in early 2007

- Sri Lanka has a much higher per capita GNI, but lower mobile/100 and lower overall telecom growth rate

	PK	LK
Per capita GNI, Atlas, USD	690	1,160
Per capita GNI, PPP, USD	2,350	4,520
Mobile/100	31.07	27.10
Fixed/100	4.33	9.5
M+F/100	Samarajiva LIRNE.NET 35.40	36.70



# PK-LK in 2001, prior to Pakistan reforms of 2002-03

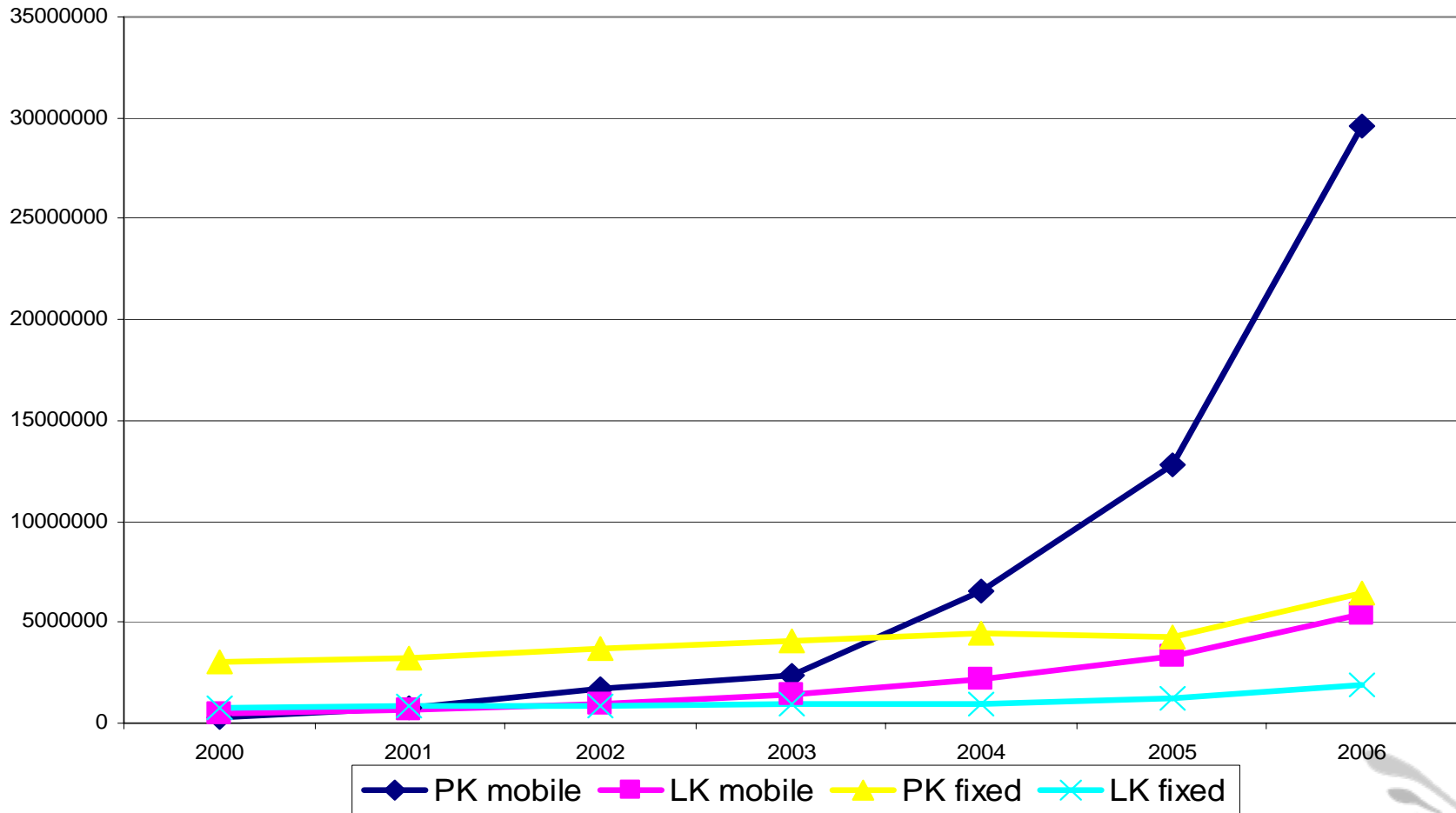
- ❑ Sri Lanka (and India) significantly ahead of Pakistan
- ❑ Lead in mobile was bigger than in fixed

	PK	LK
Fixed/100	2.33	4.43
Mobile/100	0.56	3.56



# Which chart to use?

Fixed & mobile connections, 2000-06, or . . .



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# Alternatives?

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- Fixed/100 and mobile/100
- $F + M/100$
- Different time periods
- Growth rates
  - Year-on-year
  - CAGR
- Price comparisons
- Urban-rural comparisons



# What is the correct communication strategy?

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- “The total tele-density of Sri Lanka and Pakistan are 36.6 and 35.4 at the end of year 2006 and it is observed that Sri Lanka is leading Pakistan.”

-Director General of Telecom  
Sri Lanka

in *Montage*, February 2007, p. 34



# What is the correct communication strategy?

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- “We are impressed by the spectacular growth achieved by Pakistan. I am forming a study team from the Ministry, the TRC and the ICT Agency to visit Pakistan and make immediate recommendations on the changes we need to make.”



# What is the correct communication strategy?

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- “We are impressed by the tremendous gains made by Pakistan. I am convening a study group of operators and others to recommend immediate actions on barrier such as the non-disbursement of universal service funds and the continuation of receiving party pays. Of course, you have to understand that as a democracy, we have to deal with the courts and appeals, unlike some other countries”

