

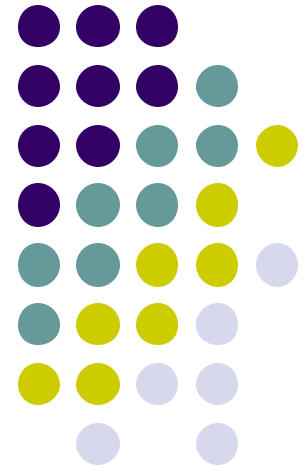


The International Information and
Communication Technology Exhibition
and Conference for Indonesia

Backbone of Convergence: *Getting the Foundation Right*

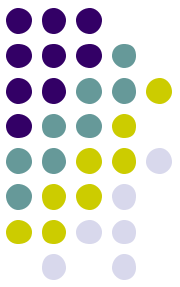
ICT 2007, May 3, Jakarta

Divakar Goswami
LIRNEasia



L I R N E a s i a

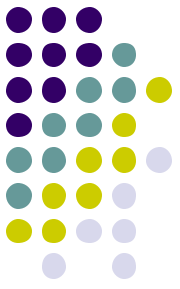
Learning Initiatives on Reforms for Network Economies



What is convergence?

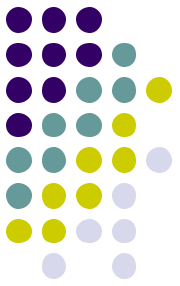
- Convergence involves technological, market, and policy/regulatory dimensions.
- Digitalization has allowed a panoply of services that were previously distinct to be delivered over one pipe.
- Key characteristic is substitutability of services in consumption i.e., Fixed-Mobile convergence

Network capacity constraints on convergence



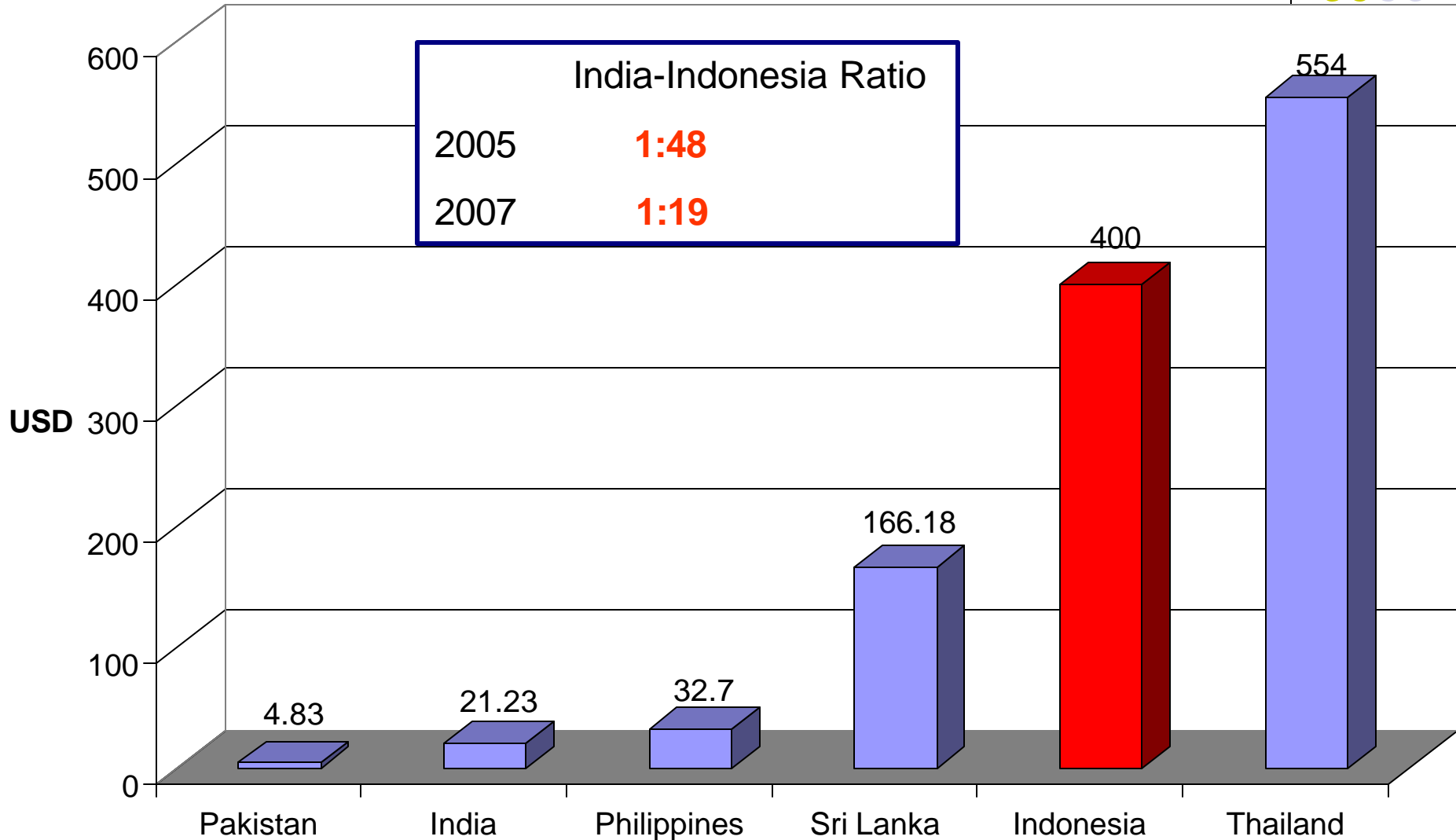
- Emerging new infrastructures are needed with greater capacity to support bandwidth hungry applications and services
- Next Generation Networks (NGNs) are being designed to enable convergence of voice, data and multimedia services.
- Without sufficient backbones (“big pipes”) that connect access networks to each other and to wider world, convergence will fall short of its potential.

Is Indonesia ready for convergence?



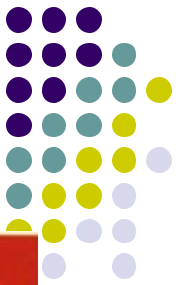
- Domestic backbone infrastructure:
 - Inadequate supply
 - Solution: Palapa Ring
 - High prices: LIRNE *asia* Wi-Fi study-Indonesian leased line price X48 times Indian.
 - Solution: Leased lined regulation
- International backbone infrastructure:
 - Inadequate supply
 - Solution: One additional IDD license
 - High prices
 - Solution: One additional IDD license

Monthly 2Km, 2Mbps Domestic Leased Line Prices



Source: LIRNEasia 6 Country Study

Leased line regulation?



Tarif Speedy Personal turun 34% (Sebelumnya Rp 300.000,-/bulan)

Biaya aktivasi: **Rp 75.000,-** (Sebelumnya: Rp 150.000,-)

Penggunaan di atas 1000 MB: **Rp 0,5,-/KB** (Sebelumnya: Rp 0,7,-/KB)

*Penggunaan hingga 1000 MB/bulan (Sebelumnya: 750 MB/bulan)

Speedy Office

**TURUN
63%**

Biaya aktivasi: Rp 75.000,- (Sebelumnya Rp 150.000,-)

Biaya langganan: Rp 750.000,-/bulan (Sebelumnya: Rp 2.000.000,-/bulan)

Tanpa batas penggunaan

Speedy Warnet

**TURUN
42%**

Biaya aktivasi: Rp 75.000,- (Sebelumnya: Rp 150.000,-)

Biaya langganan: Rp 1.750.000,-/bulan (Sebelumnya: Rp 3.000.000,-/bulan)

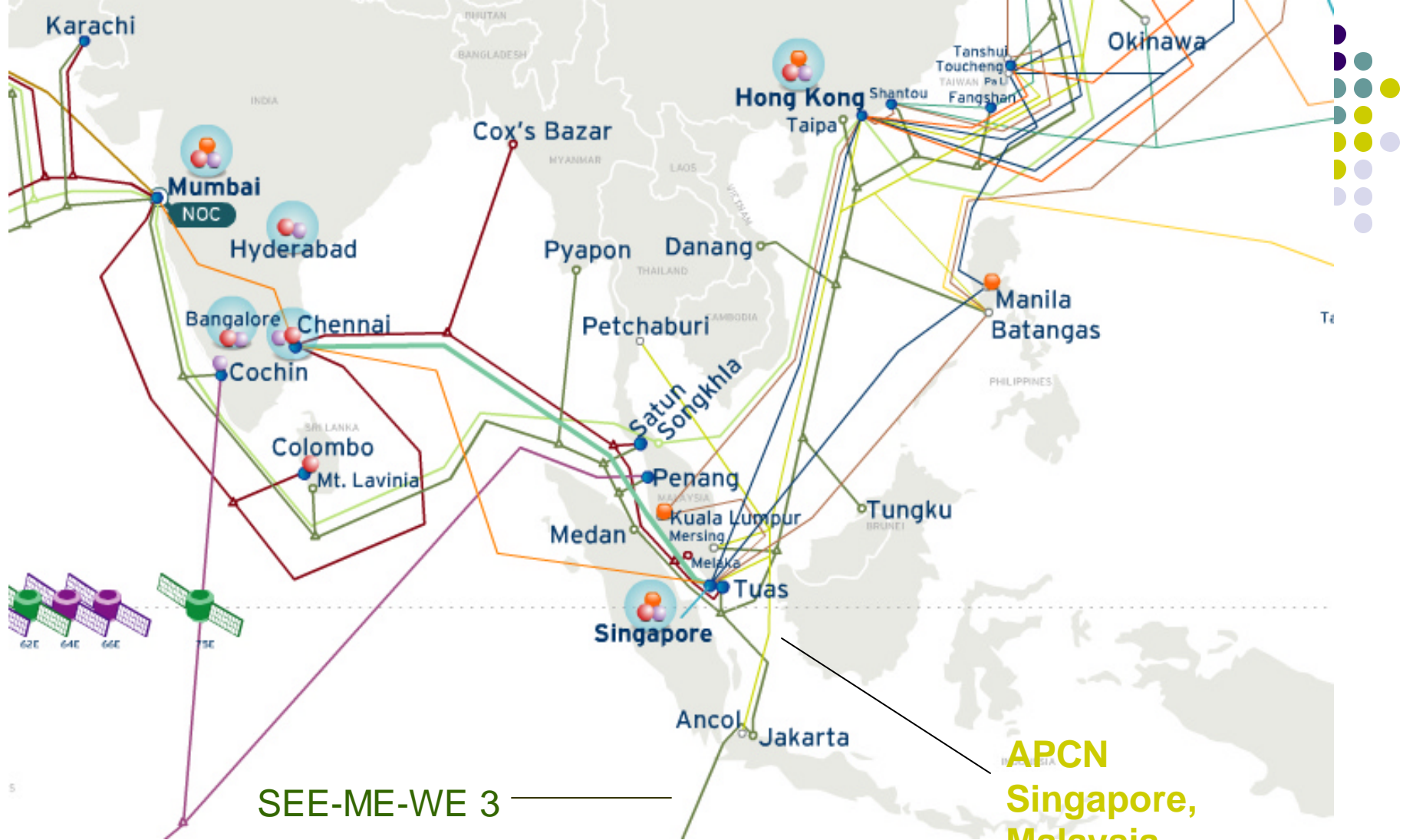
Tanpa batas penggunaan

*Khusus Speedy Warnet, harga baru berlaku mulai 1 April hingga 30 September 2007

| Yogyakarta | Solo | Surabaya | Malang | Madiun | Jember | Balikpapan | Pontianak | Samarinda | Banjarmasin | Makassar | Manado | Denpasar |

Informasi lebih lanjut, hubungi TELKOM 147 atau www.telkomspeedy.com



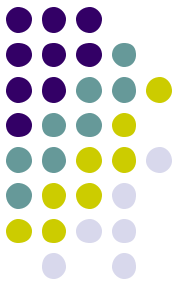


Few Submarine Cables Landing in Indonesia

To Perth

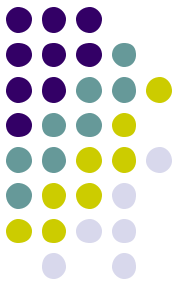
APCN
 Singapore,
 Malaysia,
 Indonesia,
 Philippines,
 Thailand, Hong
 Kong

Moving towards full liberalization of IGW



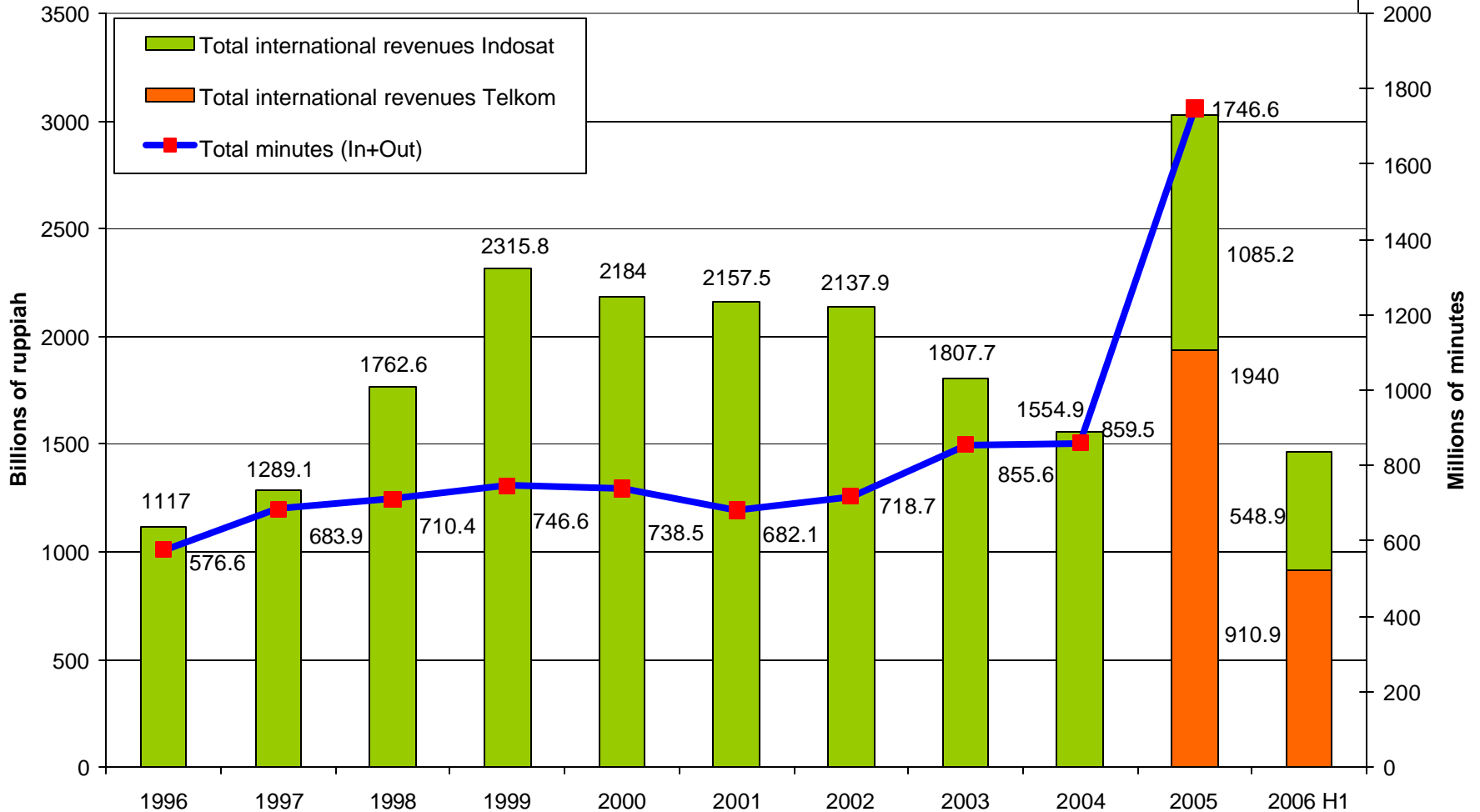
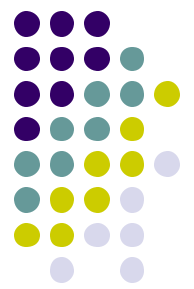
- Not enough cables landing in Indonesia
- Taiwan outage highlighted lack of redundant capacity and routing
- What is preventing more cables landing into the country?
- Duopoly prevents independent submarine cable companies from landing cable in Indonesia.
- Licensing one additional IDD license will not fix the problem.
- Full liberalization of IGW will make Indonesia an attractive destination for cable consortiums and independent cable owners.

Indonesian Govt loses with non-liberalized IGW



- Before partial liberalization of international gateway, Indosat losing revenues as more calls going through bypass.
- Indonesian govt losing tax revenues on grey market traffic.
- Once gateways were partially liberalized amount of revenues made through legal channels doubled.
- As traffic volumes increase, liberalized operators generate revenues, become more profitable and make greater tax payments to the government.

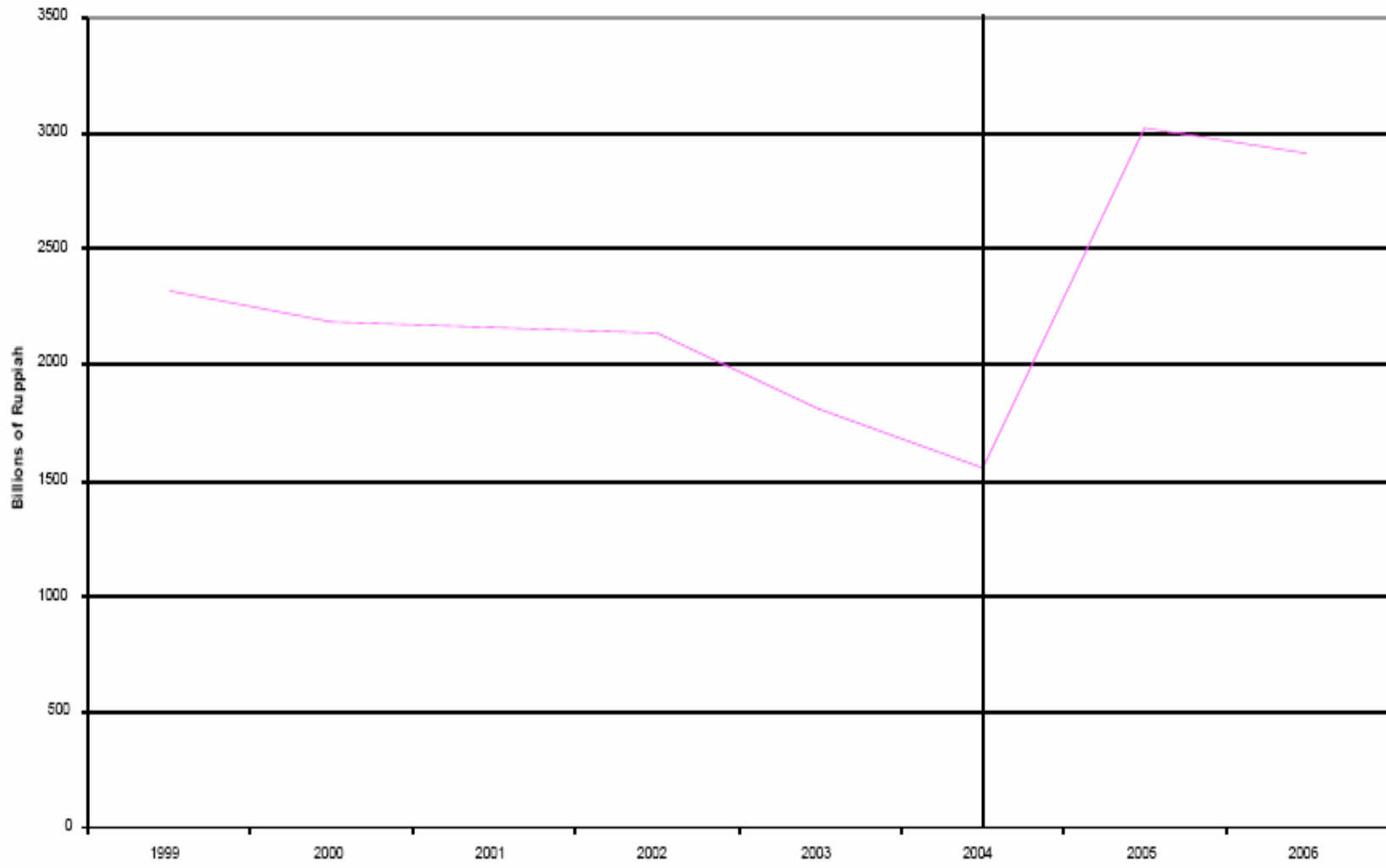
International Traffic & Revenue Trend for Indonesia Indosat & Telkom



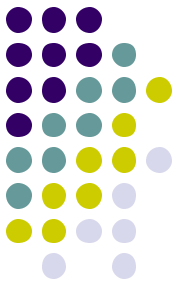
Source: LIRNEasia



Figure 13 - Indonesia: revenue generated by international calls, 1999-2006



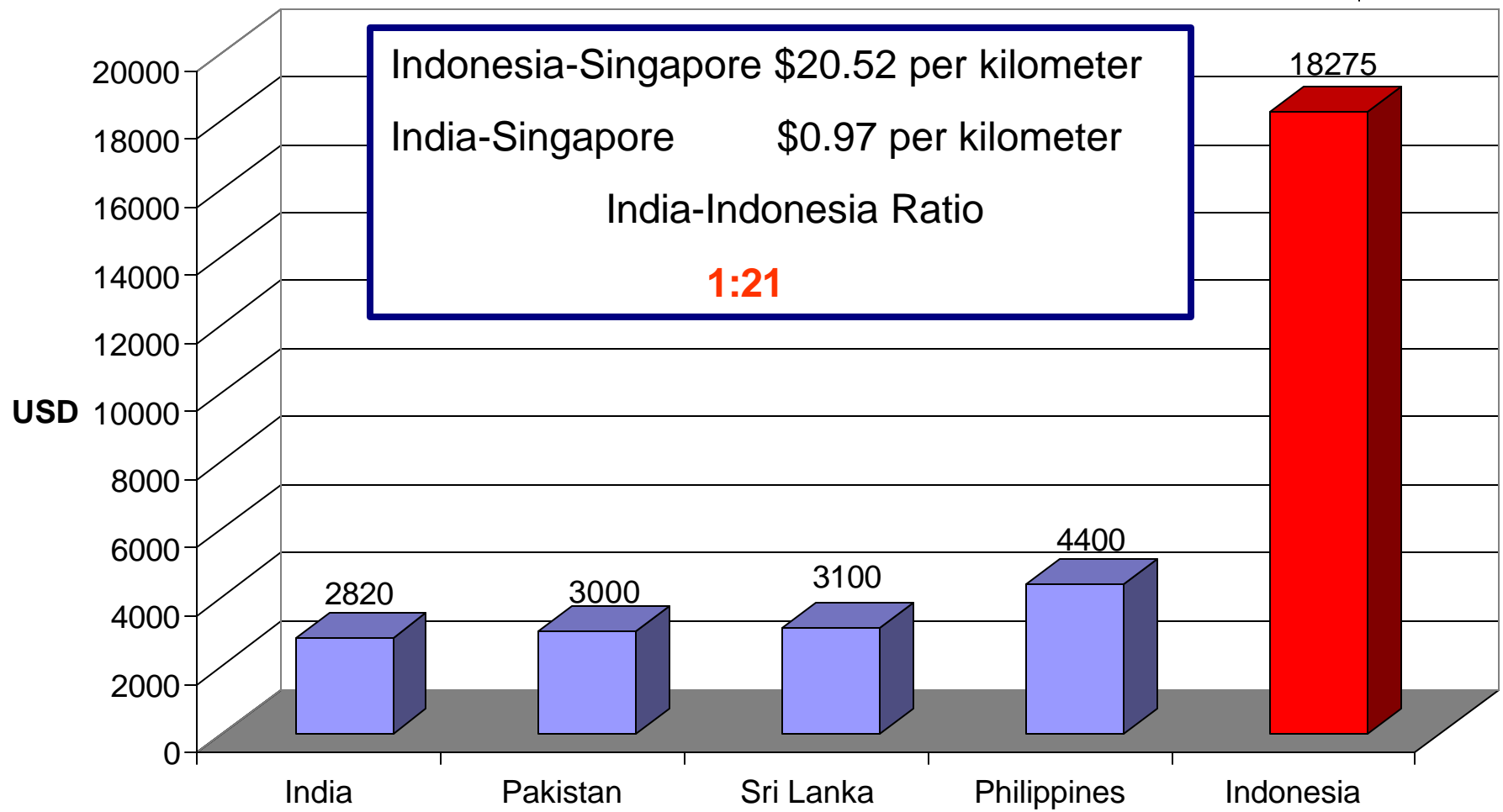
Source: GSMA International Gateway Liberalization 2007



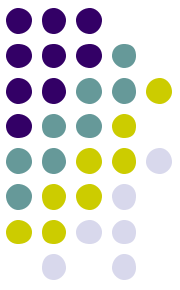
Consumers also lose with non-liberalized IGW...



Monthly International Private Leased Circuit Prices to Singapore, 2Mbps

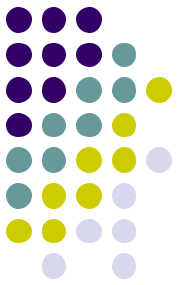


Source: LIRNEasia 6 Country Study



IGW: Why liberalize?

- International gateway are facilities through which international calls are made and received.
- GSMA study found that gateway liberalization lowers international call prices, increases international bandwidth and lower costs in the provision of international services.
- **Average international call prices in countries liberalizing fell by at least 31% with partial liberalization and as high as 90% in the years immediately following full liberalization (GSMA 2007)**
- Prices of international leased lines also fell.

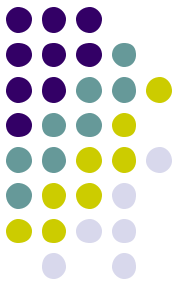


To reduce Internet prices...

- Cost components of a typical Indonesian ISP:
 - International connectivity (Internet bandwidth, half circuits): **35%**
 - National connectivity (domestic leased lines, distribution of PoPs): **45%**
 - Commercial and operational costs (Billing, customer service, marketing): **20%**

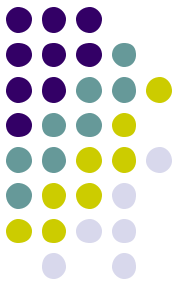
Source: APJII

Policy recommendations



- Full liberalization of IGW is win-win for government, for consumers and for operators. Benefits are clear in countries that have taken this path.
- In a fully liberalized IGW market where entry is permitted to any number of providers, operators have a Build or Buy option.
- Threat of entry will lower Indosat's & Telkom's prices and make them more amenable to giving easier access to essential facilities.
- If not, operators have the build option which they can exercise as a purely commercial decision versus a regulatory requirement.

Policy recommendations



- Instead of requiring one operator to build 7 new IGW which may not make commercial sense, allow the market to drive infrastructure roll-out.
- Less onerous obligations will attract greater participation from more number of players which will achieve objective of more international gateway infrastructure.
- Light-handed regulation imposes less costs on one who wields it as well as the ones regulated.