

# International Networks: Telecommunications in the Developing World

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14 February 2007

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# Outline

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- Developing countries – introduction
- Key success factors of sector reforms
- From the missing link to the digital divide
- Critical issues today
- Roles of multilateral financing and trade

# Developing countries account for 86% of world population and over 50% of GDP\*

2004

income	No.	pop. (b)	GDP p/c (\$)	examples
low	54	2.4	580	Ghana, India, Moldova, Mongolia, Nicaragua
lower middle	58	2.5	1,918	Bolivia, China, Sri Lanka, Serbia, Tunisia
upper middle	40	0.5	5,625	Chile, Malaysia, Poland, South Africa, Turkey
high	56	1.0	35,130	Australia, Greece, Singapore, Slovenia, UK, US
all	208	6.4	6,937	

Source: *World Indicators Data Base*, World Bank April 2006 \*At purchasing power parity, *The Economist*, 16-22 September 2006

# Telecommunications were state-owned monopolies until the late 1980s

- Large unmet demand despite willingness to pay
- Incomplete telecommunications infrastructures
- High expansion costs and low labor productivity
- No incentives or freedom to perform well
- No access to capital markets
- Operating surpluses used as fiscal revenue
- Scarce qualified human resources

# Major sector reforms were undertaken by developing countries from the 1990s

- State monopolies gave way to private-led, increasingly competitive markets
- Governments refocused their role on policy, regulation, and supplementing the market
- 1988-91: Chile, Argentina, Mexico, Venezuela
- 1990s: Reforms extended worldwide
- 2000: ~70 developing countries had some competition and private participation

# Competition proved to be the key to rapid telecommunications development

- Competition results in faster growth, lower costs, new services, and quicker response to user needs
- Privatization with competition results in faster growth and lower prices than privatizing monopolies
- Prices of international services under limited competition are about twice those in open markets
- Internet services take off quicker where providers may build their own networks and gateways

# Reforms attracted private investment to telecommunications in developing world

- Annual investment increased from \$17 b (1980s) to \$60 b (1990s) to \$95 b (late 1990s)
- Investment recovered from market collapse of 2000 rising again to \$60 b (2004)
- FDI jumped from \$2 b in 1990 to \$33 b in 1998
- Developing countries themselves began investing in other emerging markets

## Public sector played smaller but critical roles

- Provides policy guidance and leadership
- Maintains legal and institutional framework
- Regulates markets where these do not work well enough on their own
- Supports service provision beyond the market if needed for broader development
- Is a large user and content provider

## Gap between emerging and mature economies has been narrowing quickly

- **Telephone connections grew 40-fold since 1980**  
While population and GDP roughly doubled
- **Share of the world's telephones has tripled**  
Over 60% are in developing countries (17% in 1980)
- **Voice communication is widely accessible**  
Mobile service footprints cover >80% of population  
Many low-income people are now connected  
>40% of all households have telephones
- **Internet use has quadrupled since 2000**

## Now developing countries have about 60% of the world's telephone connections

2004

income	fixed + mobile phones, billion	fixed + mobile phones per 100 inhabitants	Internet users per 100 inhabitants
low	0.17	7.1	2.4
lower middle	1.08	43	7.4
upper middle	0.40	80	16
high	1.31	131	55
all	3.01	47	14

Source: *World Indicators Data Base*, World Bank April 2006. Figures in *italics* are calculated as residuals

# The missing link has given way to the digital divide!

## Low and middle income countries:

	1980	1990	2000	2005
Population, billion	3.6	4.4	5.1	5.4
GDP per capita, US\$ *	860	960	1,160	1,390
Fixed phone lines / 100 inhab.	1.4	2.7	8.3	14
Mobile phones / 100 inhab.		0.9	4.6	26
Internet users / 100 inhab.			1.5	6.7

Sources: World Bank 2005, ITU 2003

\* Constant 2000 US\$

# Telecommunications has gone a long way in developing countries, but not all is well

- The telecommunications sector reform agenda is incomplete and also faces new demands
- Enabling and enforcing fair competition has become the overarching regulatory concern
- Basic services are widespread but some old gaps remain and new ones emerge
- Regulation lags behind market development
- Regulatory and market failures rekindle claims for public sector intervention

# The sector reform agenda is incomplete and also faces new demands

- Several developing countries are only in early stages of sector reforms
- Important markets remain closed or only slightly open in about one-half of the countries
- Incomplete infrastructures result in inefficiencies and slow rollout of new services
- Convergence, new technologies, and new business models require regulatory change
- Modernize radio spectrum management towards market solutions

# Basic services are widespread but some old gaps remain and new ones emerge

- Fast growth in large emerging markets has masked slower progress elsewhere
- All population groups have gained - but rural areas and urban poor still lag in relative terms
- The Internet reaches mainly the better-off population - and may be regressive
- Access to broadband networks is now regarded as essential

## Critical problems facing many developing countries today

- Open markets still closed to competition
- Safeguard fair competition - interconnection, access to infrastructure, cost-oriented pricing
- Clarify regulatory regime for Internet telephony
- Roll out broadband infrastructure and fixed wireless access
- Improve effectiveness of regulatory institutions
- Modernize legal and regulatory framework for convergence and light-touch regulation

# Examples for class discussion

2004

	Chile	Tunisia	Serbia	Mongolia
Population, m	16.1	9.9	8.2	2.5
GDP p/c US\$	4,930	2,650	2,700	600
Literacy rate, %	96	74	96	98
Time to set up a business, days	27	14	51	20
Merchandise trade as % GDP	60	80	65	116
Fixed+mobile lines per 100 inhab	80	48	91	25
Internet users per 100 inhab	27	8	15	8

Source: *World Indicators Data Base*, World Bank April 2006

# WTO - global rules on trade among nations are agreed and enforced

- GATS – provides a framework for telecommunications policy and regulation
- Reference Paper – establishes principles for regulating telecommunications services
- Countries undertake specific commitments on market access and national treatment
- Adopting Reference Paper
  - sets minimum regulatory standards
  - adds stability to reform agenda
  - enhances investor confidence

# Multilateral organizations provide technical assistance and financing for development

- World Bank Group
  - loans and credits to governments
  - debt and equity financing to private companies
  - trust fund grants
  - political insurance
  - direct technical assistance
- Contributes to telecommunications development
  - access to experience of >80 countries
  - integration with broader economic strategy
  - stability of reform agenda
  - credibility with investors