

Global trends in telecom development

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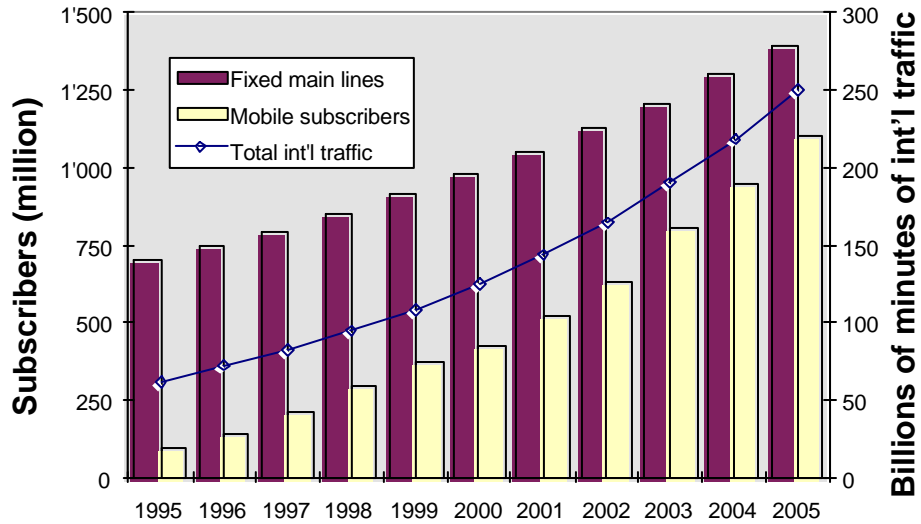
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Global trends in telecom development

- **The state of the industry**
 - ⇒ **Fixed-lines**
 - ⇒ **Mobile**
 - ⇒ **The Internet**
- **The state of the market**
 - ⇒ **Increasing competition**
 - ⇒ **Private sector participation**
 - ⇒ **Independent regulation**
- **The shape of things to come**
 - ⇒ **The changing telecom development gap**
 - ⇒ **The industry in 2005**
 - ⇒ **Key policy issues**

Projection of growth trends, fixed and cellular subscribers and int'l traffic, 1995-2005



Source: ITU.



The changing pie: Global telecom service revenue, 1998

Other (incl. Internet, leased lines, telex), 10.6%

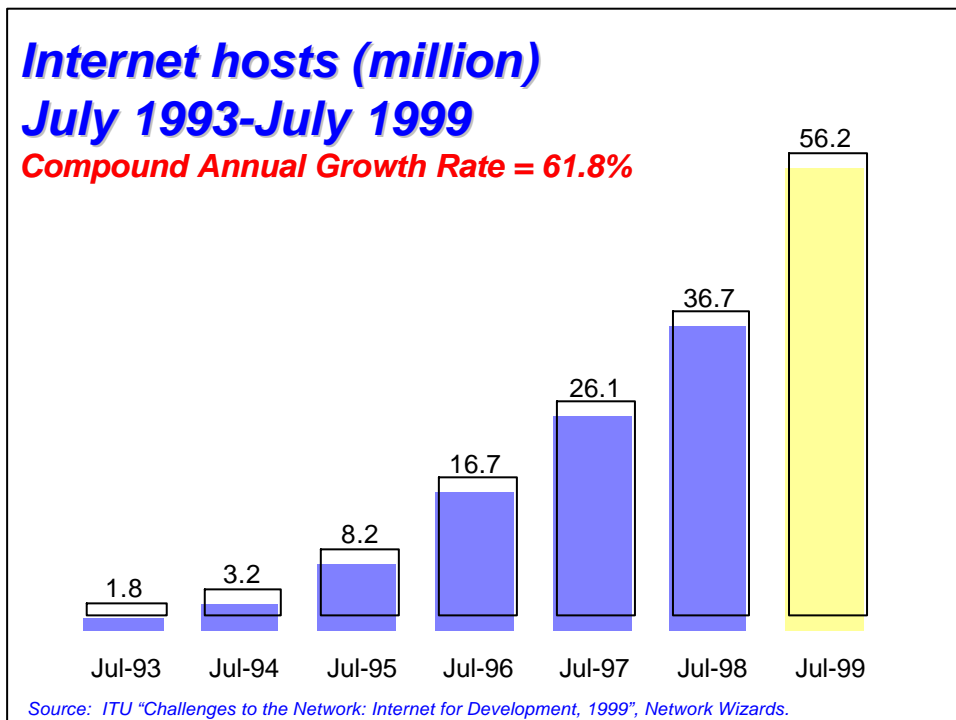
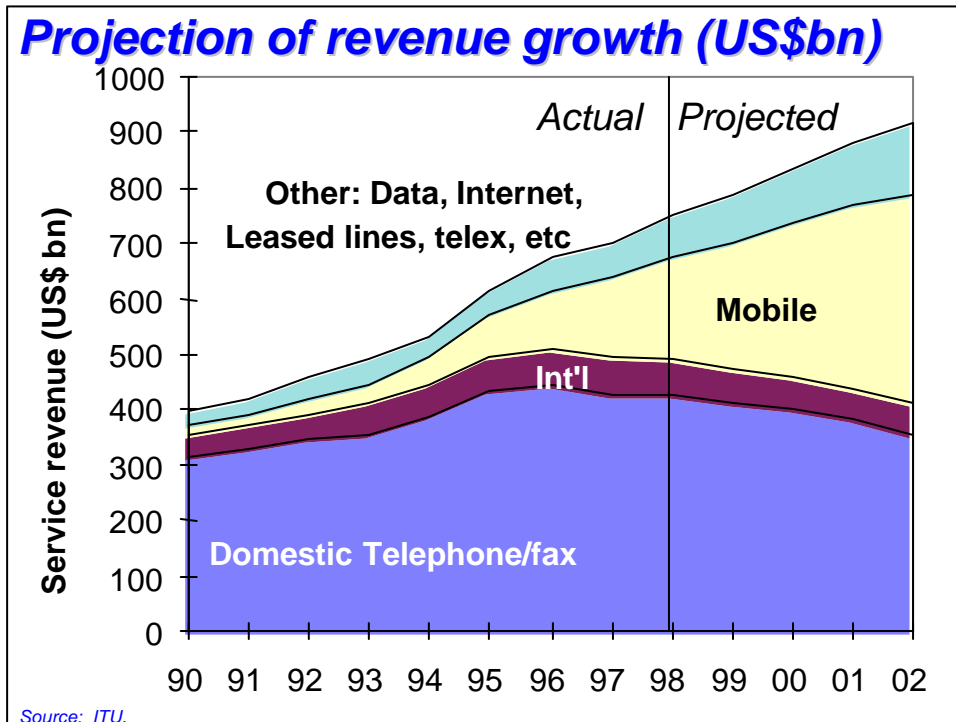
Mobile service revenues, 21.2%

International revenues, 8.8%

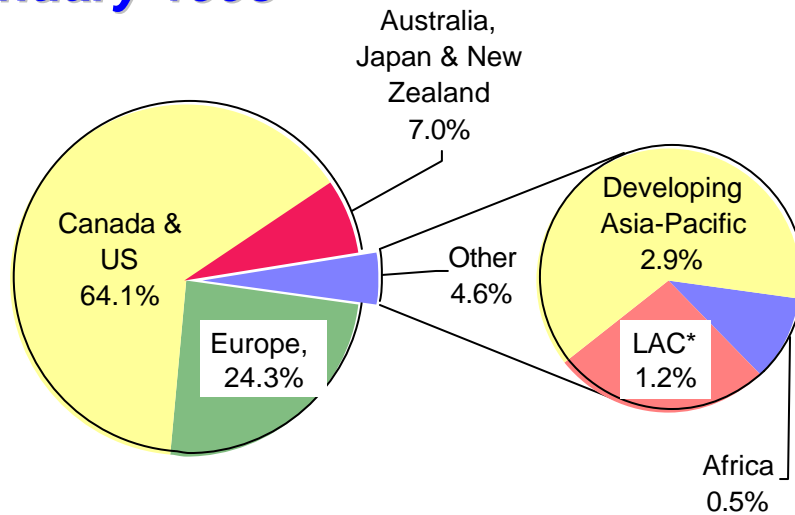
Domestic fixed-line revenues, 59.2%

1998 Telecom service revenue. Total = US\$724b

Source: ITU "World Telecommunication Development Report 1999: Mobile cellular" (forthcoming)



Distribution of Internet hosts, January 1998



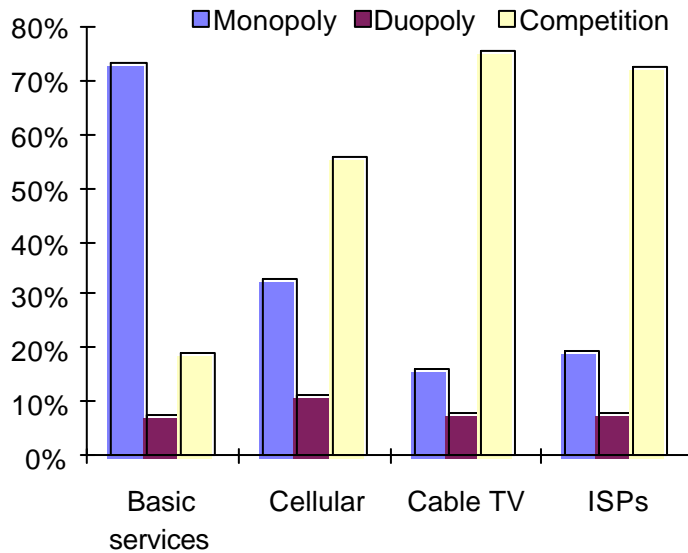
Source: ITU "Challenges to the Network: Internet for development, 1999".



The state of the market

- **Increasing competition**
 - ⇒ Around two-thirds of telecom subscribers now have a choice of operator
 - ⇒ More than 99 per cent of mobile and Internet subscribers now have a choice of operator
- **Dominantly private-ownership**
 - ⇒ 19 out of top 20 top public telecom operators are partially or fully private-owned
 - ⇒ Of the top 20 mobile operators, 16 are fully-private, 3 are partially private, 1 is state-owned
- **Independent regulators**
 - ⇒ There are currently 84 independent regulators (only 12 in 1990)

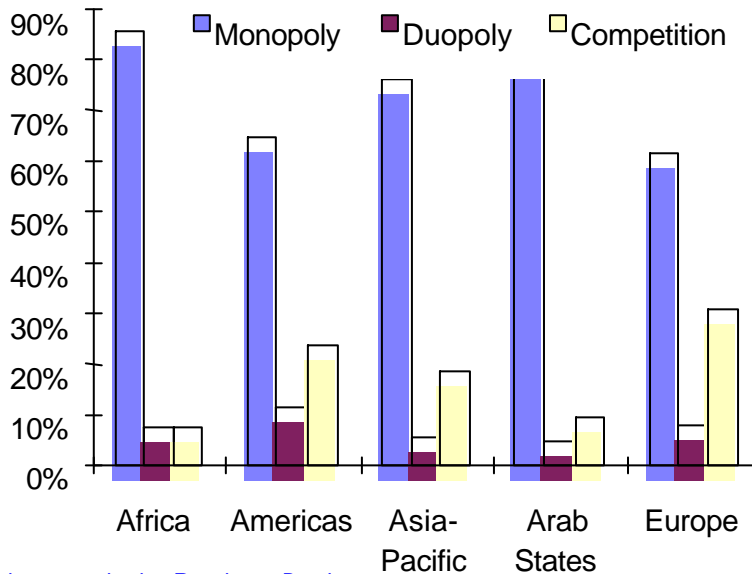
Degree of competition by service, 1999 (ITU Member States)



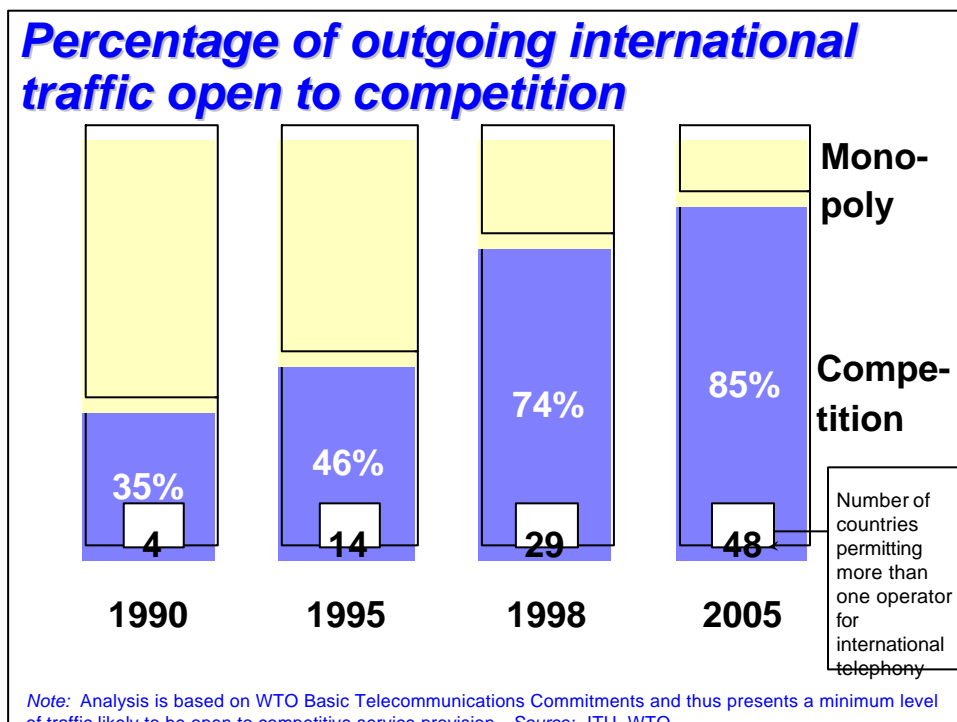
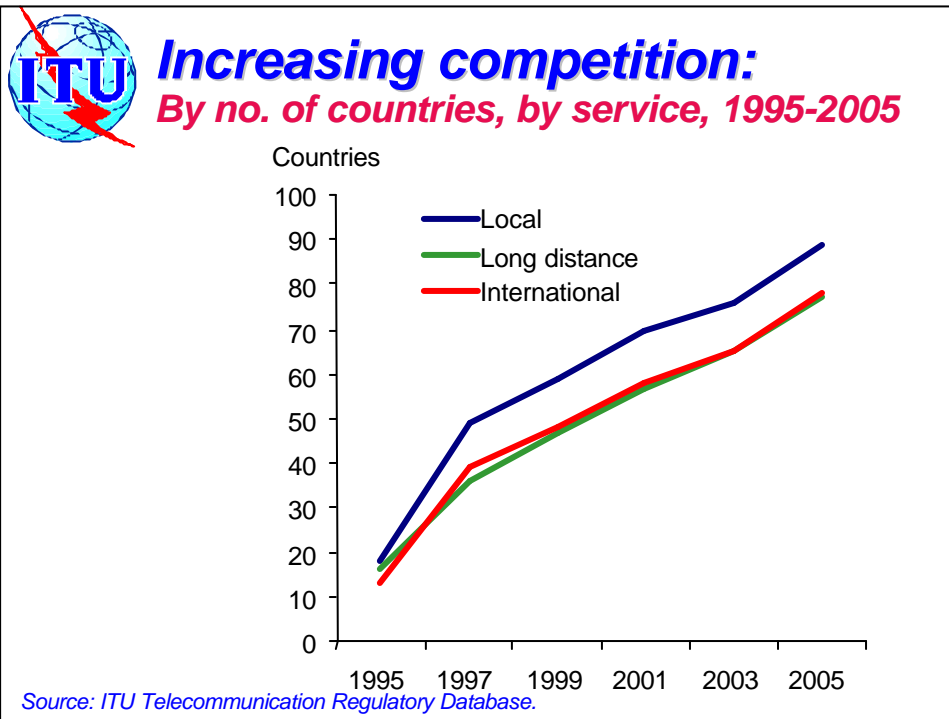
Source: ITU Telecommunication Regulatory Database.



Degree of competition in basic services, 1999, by region



Source: ITU Telecommunication Regulatory Database.





Recent privatisation transactions

1995	1996	1997	1998
Bolivia	Belgium	Armenia	Brazil
Cape Verde	Germany	Australia	Denmark (2)
Cuba	Ghana	Cote d'Ivoire	France
Czech Rep.	Greece	France	El Salvador
Indonesia	Guinea	Greece	Finland
Mongolia	Hungary	Hungary	Guatemala
Portugal	Indonesia	India (MTNL)	Lithuania
Spain	Ireland	India (VSNL)	Malta
	Korea	Israel	Poland
	Peru	Italy	Puerto Rico
	Portugal	Kazakhstan	Romania
	Singapore	Panama	Switzerland
	Venezuela	Portugal	
		Senegal	
		Serbia	
		South Africa	
		Sri Lanka	
		Spain	

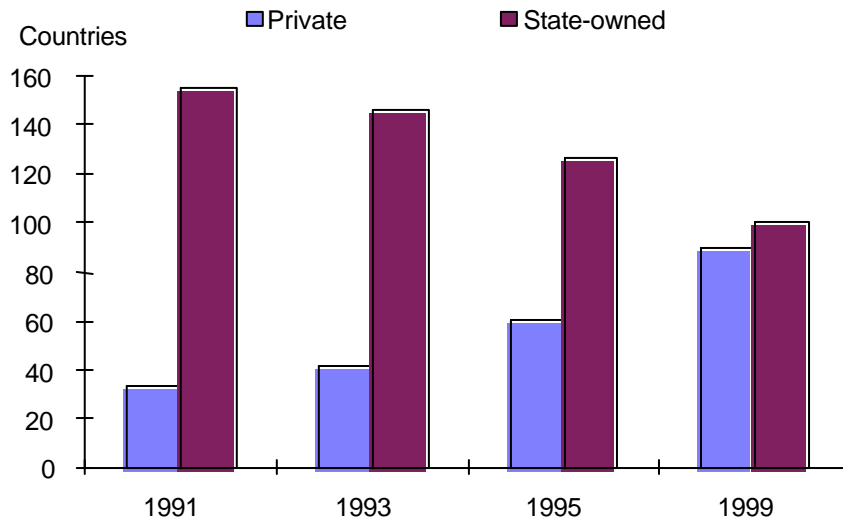
Source: ITU
Telecommunication
Regulatory Database.
Note: Some countries
made sales in several
tranches (e.g., Spain)

Telecom Privatisations in Africa

Country	Year	%	Price US\$m	Partner
Cape Verde	1995	40%	40	Portugal Telecom
Côte d'Ivoire	1997	51%	210	France Telecom
Ghana	1996	30%	38	Telekom Malaysia
Guinea	1996	60%	45	Telekom Malaysia
Guinea-Bissau	1989	51%	3	Portugal Telecom
Sao Tomé & Príncipe	1989	51%	1	Portugal Telecom
Senegal	1997	33%	90	FT-led consortium
South Africa	1997	30%	1'260	SBC/Telekom Malaysia

Source: ITU Telecommunication Regulatory Database.

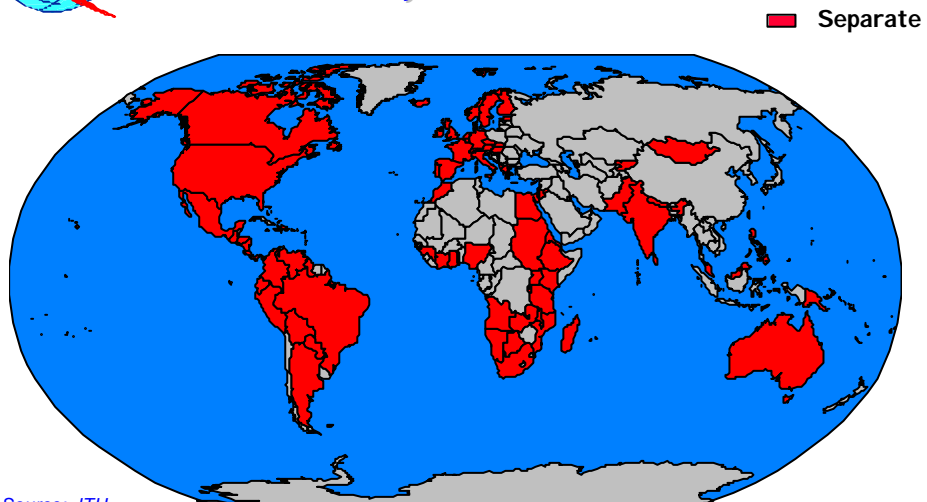
Ownership status of the incumbent



Source: ITU Telecommunication Regulatory Database.



Separate regulatory bodies, worldwide, 1998



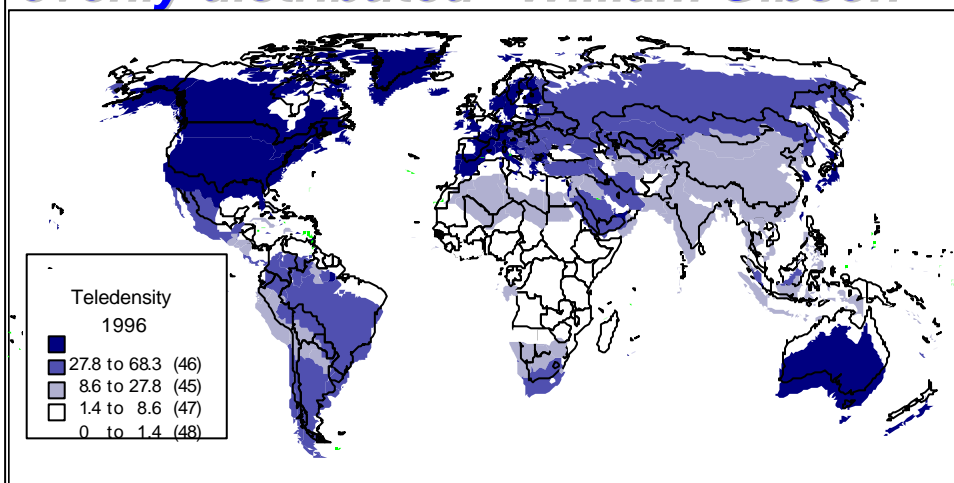
Source: ITU
Telecom
Regulatory
Database.



The development gap is shrinking but also shifting

- **The share of the telecom market of Low & Lower-middle income countries:**
 - ⇒ **Fixed-lines: 1984 = 13%; 1998 = 27%**
 - ⇒ **Mobile: 1990 = 1.4%; 1998 = 12%**
 - ⇒ **Internet hosts: 1993 = 0.1%; July 1999 = 1.7%**
- **Some LDCs and CIS Republics are falling further behind in fixed-line networks**
 - ⇒ **No growth or decline between 1995-98 in Afghanistan, Armenia, Burundi, DPR Congo, Haiti, Kazakhstan, DPR Korea, Kyrgyzstan, Sierra Leone, Somalia, Tajikistan, Uzbekistan, Zambia**

“The future is here, it’s just not evenly distributed” William Gibson



Source: ITU World Telecommunication Indicators Database.



Forecasting to 2005 **Projecting forward current trends**

- **By 2005, there could be:**
 - ⇒ 1.4 billion telephone lines
 - ⇒ 1.1 billion cellular telephone subscribers
 - ⇒ 400-500 million Internet users
- **These could account for:**
 - ⇒ 250 billion minutes of int'l voice/fax traffic
 - ⇒ 2.5 trillion minutes of total voice/fax traffic
 - ⇒ 1'000'000 Gigabits (1 Petabit) per second of Internet traffic
 - ⇒ Services market of around US\$1.1 trillion
 - ⇒ Equipment market of around US\$400 billion



Forecasting to 2005 **Identifying discontinuities**

- **By 2001, less than 10% of int'l traffic will use accounting rate system**
 - ⇒ Domestic interconnect fees will be dominant mode
- **Major price cuts in international calls after 2002/2003**
 - ⇒ Availability of new infrastructures
 - ⇒ Impact of Internet pricing model (distance and duration independent)
- **Mobiles exceed fixed-line phones in most OECD countries by 2004/2005**
 - ⇒ Introduction of "third generation" mobiles after 2001
 - ⇒ Generational shift, as new users reject fixed-lines



The int'l telecoms market in 2005: Some educated guesses

- **The premium of an international call over a domestic call (currently >300%) will be <20%**
 - ⇒ **Internet-like pricing structure**
- **Traffic flows will be dictated by a small number of hubs connected to multiple fat pipes**
 - ⇒ **Major hubs in New York, London and Hong Kong?**
- **Major alliances will own a smaller share of the market as infrastructure owners resell capacity**
 - ⇒ **Market significantly bigger by volume, but only slightly bigger by revenue**
- **Telecom development gap will shift**
 - ⇒ **Gap between middle income countries and LDCs**



Key policy issues to be tackled

- **Interconnection**
 - ⇒ **How to manage the transition to a multi-player environment?**
- **Internet**
 - ⇒ **Who really sets the rules? Who really gets benefits?**
- **International settlements**
 - ⇒ **How to transition to a cost-oriented system while providing a “soft-landing” for developing countries?**
- **International infrastructures**
 - ⇒ **How to ensure equal access at competitive rates?**
- **Investment**
 - ⇒ **How to increase investment, esp in LDCs?**