DRIVERS OF THE BROADBAND INDUSTRY IN CHINA AND INDIA: WHAT CAN WE LEARN?

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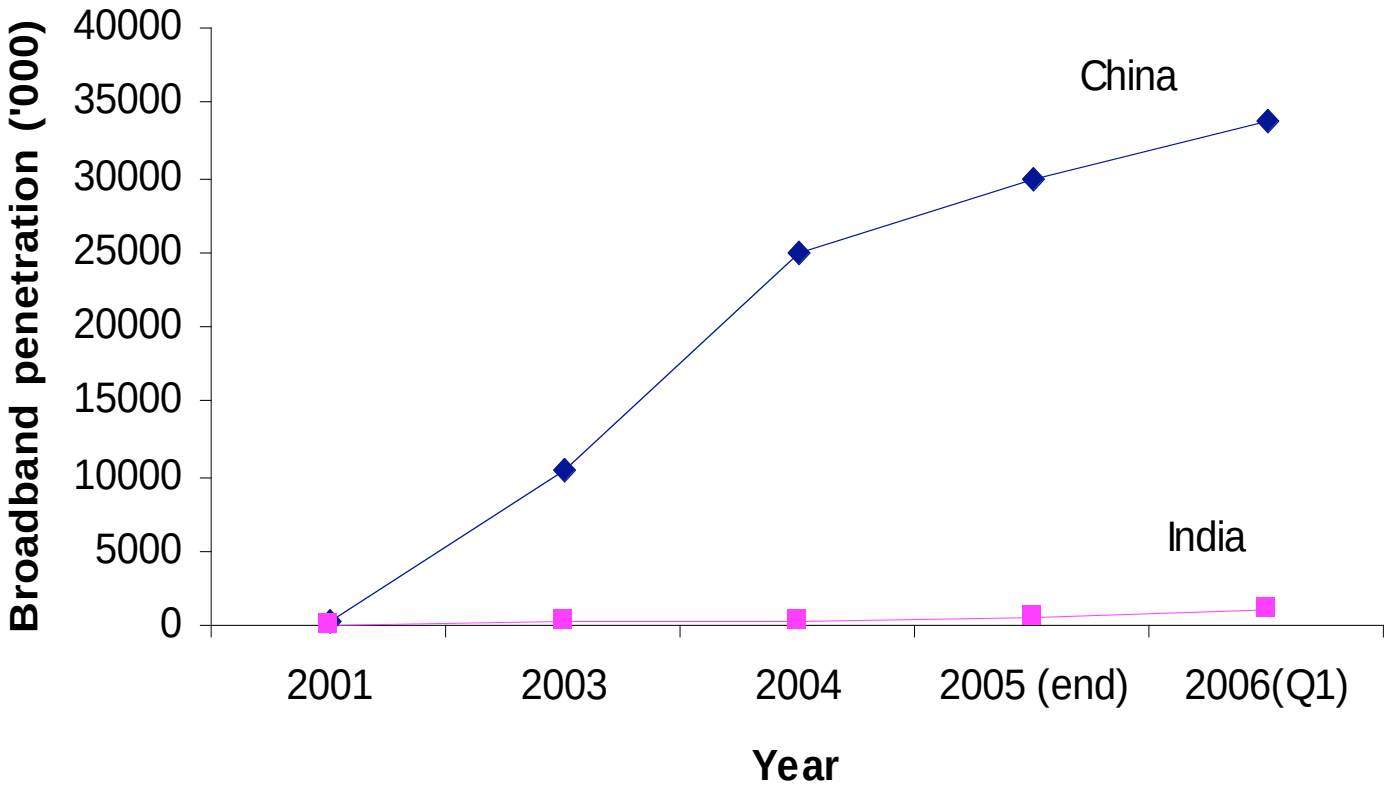
BROADBAND NETWORKS IN CHINA

- 2005: second in the world in no. of Internet/broadband users.
  - 2006 end: expected to have more Internet/broadband lines than any other country.
- Early 2006: a Chinese Internet user more likely to be on broadband than his/her U.S. counterpart.
- Early 2006: > half of Chinese Internet-users had broadband
  - 6.6% in 2002 end.

BROADBAND NETWORKS IN INDIA

- Far behind China but is expected to catch up.
- May 2006: Top three socio-economic classes in urban India had a 3% broadband adoption rate.
- Ministry of Communications & Information Technology: broadband in 12 million homes by 2010.

A Comparison of Broadband Penetration in China and India



GOVERNMENT'S ROLE

- The government can play a more critical role in China.
  - deep entrenchment in the economy.
- A series of programs to accelerate telecom development.
- A key role in promoting geographical equity.
- India: created competitions: 'healthier' than China's.

INDUSTRY STRUCTURE

- China: Telecom deregulation, 2001: half a dozen carriers, dozens of foreign and domestic hardware providers and many companies offering Internet services and related products.
- India: broadband market was dominated by Dishnet.
  - In recent years, ISPs like Sify are expanding services.
  - BSNL, MTNL and Bharti are aggressively attracting broadband customers.
  - All fixed line operators are testing broadband DSL for advanced applications.
  - Horizontal collaboration.

CONSUMER DEMAND

- Technological innovativeness higher in China.
- Online games market: India in 2006 comparable to China in 2001 (Business Wire 2006).
- Chinese have wider and deeper adoption of broadband.
- Both countries: Few peasants and poor households can afford the services
  - shared broadband access is more common.

BUSINESS DEMAND

- China: demand from bandwidth-intensive businesses (e.g., online gaming) growing rapidly.
  - Government agencies are early adopters of broadband applications.
- India: rapidly increasing business process outsourcing industry.

NATIONAL TECHNOLOGICAL CAPABILITIES

- China's status as a global technological powerhouse.
- TD-SCDMA as a global 3G cellular standard.
  - Partnering with Japan and Korea to develop standards for 4G cellular phones.
- World's biggest ICT exporter.
  - Chinese telecom equipment vendors have sold broadband equipment in across all five continents.

RELATED INFRASTRUCTURE

- Both countries: using rail networks to bring affordable broadband access.
- India: Gailtel (the telecoms services arm of a gas transmission company): started leasing bandwidth in mid-2001 and operates as an ISP.
- Upgradeability of cable TV infrastructure to broadband.

SUPPLY CHARACTERISTICS

- Both countries: broadband prices among the lowest in the world.
  - $10 a month by some providers.
  - Internet cafe in a small Chinese town: 13 cents/hour.
- Innovative marketing.
- Content availability.

IMPACTS OF BROADBAND DIFFUSION

- Rural communities: access to e-government, tele-education and telemedicine services.
- Low- as well as high-skilled manpower actively participating in the design and development of innovative new products
  - breaking traditional geographical barriers.