International Wireless Broadband: A Comparative Analysis of Wireless Broadband Penetration and Adoption in the US and Around the World

Panel Session Talking Points by:
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Solving business problems in wireless and mobile communications

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Lessons Learned in 2G (Voice and Text)

- **Carrier competition significantly lowered prices and accelerated adoption versus mostly 1G monopolies**

- **Greatly reduced prices and rapid subscriber adoption have resulted at all national income levels with**
  - *Dirigiste* technology licensing
    - in Europe with GSM only
    - in Korea with CDMA only
  - *Laissez-faire* technology licensing
    - In US, Canada and Latin America with TDMA, CDMA and GSM
    - In Japan with PHS, PDC and CDMA
    - in China and India with GSM and CDMA

- **Wireless is displacing wireline worldwide because it**
  - Is cheaper
  - Can be deployed more rapidly
  - Provides comparable quality in most places most of the time
  - Includes text and other services
  - Provides mobility
Lessons Learned in 3G (Voice and Data)

• **3G impeded in first 5 years until 2008**
  - Huge spectrum fees taken from sector (eg, $150 bn in Europe)
  - Costly devices due to relatively low demand versus 2G
  - Insufficient network deployment
  - Achieved data speeds too slow (e.g., <384 kbps with WCDMA Rel 99)
  - Insufficient and poorly performing mobile internet services
  - Inadequate battery performance

• **Data traffic growth exploded from 2008 (20-50x) with data cards, dongles, smart phones and in 3Q 2008**
  - 105 million EV-DO subscribers
  - 83 million HSPA subscribers

• **Late market entrants facing several competitors most aggressive with low-priced services**
  - 5th national licensee 3UK
  - Leap and MetroPCS in US

• **Government meddling is harmful**
  - Protracted 3G technology selection in China
  - Protracted and complex 3G spectrum licensing in India
Outlook, Observations and Recommendations for Wireless Broadband

• Full mobility services will command premium prices over fixed or limited mobility services including WiFi and WiMAX

• Full mobility services (including WiMAX) require backward compatibility with existing 2G/3G networks for coverage

• Allocating spectrum on the basis of particular standards simply reduces spectrum value and licensing proceeds

• Economies of scale will favor full mobility wireless broadband technologies for fixed as well as mobile use, as with 2G voice

• Wireless will extend broadband reach beyond that of wireline

• Economics and government
  - GDP growth correlates well with phone and broadband penetration
  - Differential pricing (by service level) should be allowed because it will maximize investment and ultimately ensure most widespread availability
  - Rather than governments taking auction and ownership fees with one hand and giving back (less) in subsidies with the other...
  - Don’t soak cellular: Allocate spectrum at modest prices to carriers that commit broadband investment/access to most people and places
  - Shovel-ready stimulus: tax savings get spent more quickly and efficiently than grants
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