Liberalisation and Growth in Telecommunications - Hong Kong, China's Experience

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Office of the Telecommunications Authority
Hong Kong, China
Agenda

- Key Milestones in Liberalisation
  - Independent Regulator
  - Local Fixed Network
  - External Fixed Network
  - Mobile Network
  - Internet Access Service

- Liberalisation Benefited HKC’s economy
Background Information about Hong Kong, China

- Special Administrative Region of the People’s Republic of China
- Area 1,100 sq km
- Population 6.909 million
- Number of Households 2.237 million
- Gross Domestic Product per capita in 2006 – US$ 27,000
- Services constitute about 91% of economy
## Key Telecom Statistics

<table>
<thead>
<tr>
<th>Category</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone line density</td>
<td>56% by population</td>
</tr>
<tr>
<td>Number of local fixed operators</td>
<td>10</td>
</tr>
<tr>
<td>Broadband penetration</td>
<td>75% by households</td>
</tr>
<tr>
<td>Mobile penetration</td>
<td>143.4%</td>
</tr>
<tr>
<td>Number of mobile operators</td>
<td>5 (four 3G operators)</td>
</tr>
<tr>
<td>2.5G/3G customers as a percentage of mobile customers</td>
<td>26</td>
</tr>
<tr>
<td>Public Wi-Fi access points</td>
<td>5288</td>
</tr>
<tr>
<td>Annual revenue</td>
<td>US$ 6.6 billion (2007)</td>
</tr>
<tr>
<td>Annual capital expenditure</td>
<td>US$ 0.8 billion (2007)</td>
</tr>
</tbody>
</table>
Independent Regulator

- Legal basis – Telecommunications Ordinance
- Telecommunications Authority (TA) – Independent regulator empowered by the Ordinance to regulate the telecommunications industry
- 1993
  - Office of the Telecommunications Authority (OFTA) established as the executive arm of the TA
  - paved the way for liberalisation
Liberalisation in Local Fixed Network and Service

1995

- End of domestic telecommunications franchise
- Three new companies licensed
  - New World Telephone Limited
  - New T&T Hong Kong Limited
  - Hutchison Communications Limited
    to compete with the incumbent operator, Hong Kong Telephone Company
- Interconnection rules established
Liberalisation in Local Fixed Network and Service

1997
- Fixed number portability introduced

2000 – further liberalisation
- 5 wireless local fixed networks licensed
- Cable TV operator allowed to provide telephone services
Liberalisation in Local Fixed Network and Service

2003 – fully liberalised

- No limit on number of licences
- Technology neutral
- No restriction on foreign ownership
- Services fully privatised, no government subsidy
- No control on tariffs
- Competition provisions introduced
- Market driven, pro-competition, pro-consumer policy
True Competition Developed in Market

Market Share of incumbent in 2006 -2007

Business lines 69.4%
Residential lines 65.9%
Liberalisation of External Network and Service

- Hong Kong Telecommunication International (HKTI) held an exclusive licence for external services in 1990’s
- In 1998, HKTI received HK$6.7 billion cash compensation from the government to surrender its exclusive licence, eight years earlier than the scheduled expiry in 2006
Liberalisation of External Network and Service

1999
- External service-based competition introduced

2000
- External facilities-based competition introduced

- New Technologies lowered operating cost
- Substantial reduction in IDD tariffs
- No limit on number of operators
- Mandatory interconnection between external and local fixed networks
IDD Traffic

No. of Minutes

96 97 98 99 00 01 02 03 04 05 06 07

Outgoing IDD
Incoming IDD
Total
Liberalisation of external fixed networks/services brought about substantial reduction in IDD tariffs

In 1999 – 2002 (4 years) alone, estimated consumer saving reached HK$ 25.5 billion (much higher than the compensation granted to the incumbent operator)

International private leased circuits price also dropped substantially (eg. in 2001, price of IPLC for US/HK dropped by 50%)
Liberalisation in Mobile Network and Services

1984
- First mobile network introduced

1985 – 1989
- Four analogue licences issued, later switched to GSM 900 and CDMA

1996
- Additional 6 licences issued to provide GSM-1800

1999
- Mobile number portability implemented, triggered acute market competition
Liberalisation in Mobile Network and Services

2001
- Four 3G licenses issued through spectrum auctioning;
  First MVNO licence issued

2007
- One additional licence for CDMA 2000 issued

Now
- 152% subscriber penetration rate

Near future
- Several licences for broadband wireless access to be issued through spectrum auctioning
Liberalisation in Mobile Network and Services

- All liberalisation policies for fixed network apply
- Natural limitation on number of licensees due to limited availability of spectrum
- Spectrum auction - to ensure open, fair and efficient use of spectrum
- Spectrum trading to be considered
Cellular Telephones

Number of Subscribers

- 1993: 2,000,000
- 1994: 4,000,000
- 1995: 6,000,000
- 1996: 8,000,000
- 1997: 10,000,000
- 1998: 12,000,000

Year: 93, 94, 95, 96, 97, 98, 99, 00, 01, 02, 03, 04, 05, 06, 07
Internet Access Service

- Open to full competition since launched in 1990’s
- No/Low market entry barrier
- Low licence fee (HK $750 per year)
- Light-handed regulations
Number of Licensed Internet Service Providers

<table>
<thead>
<tr>
<th>Year</th>
<th>Licensees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>0</td>
</tr>
<tr>
<td>1995</td>
<td>50</td>
</tr>
<tr>
<td>1996</td>
<td>100</td>
</tr>
<tr>
<td>1997</td>
<td>150</td>
</tr>
<tr>
<td>1998</td>
<td>200</td>
</tr>
<tr>
<td>1999</td>
<td>250</td>
</tr>
<tr>
<td>2000</td>
<td>300</td>
</tr>
<tr>
<td>2001</td>
<td>1994</td>
</tr>
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<td>2002</td>
<td>1995</td>
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<td>2004</td>
<td>1997</td>
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<td>2005</td>
<td>1998</td>
</tr>
<tr>
<td>2006</td>
<td>1999</td>
</tr>
<tr>
<td>2007</td>
<td>2000</td>
</tr>
</tbody>
</table>
Internet Traffic Volume
(Customer Access via Broadband Networks)
All Sectors Now Open to Competition

- Paging services – since 1970’s
- Value-added services – 1985
- Mobile phone networks and services – 1985
- Local fixed networks and services – 1995
- External services – 1999
- External facilities – 2000
<table>
<thead>
<tr>
<th>Service Type</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wireline-based fixed carriers</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Wireless-based fixed carriers</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Satellite-based external fixed carriers</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Cable-based external fixed carriers</td>
<td>18</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td>External telecom services operators</td>
<td>213</td>
<td>217</td>
<td>230</td>
<td>226</td>
<td>248</td>
<td>252</td>
</tr>
</tbody>
</table>
Liberalisation Benefited HKC’s Economy

- Consolidated Hong Kong’s position as a telecommunications hub in the Asia-Pacific Region
- High quality, low price services enhanced competitive advantages of other sectors
- Reduced cost of telecommunications to business and residential consumers
- Competition drove service innovation, which in turn enhanced productivity (increase in capacity, decrease in unit cost)
- Facilitated the rollout of information infrastructure in Hong Kong
Fixed Line Tariffs
Monthly subscription

Hong Kong Dollar

Residential
Business

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07
Mobile Services Tariffs (Pre-paid)
Local call (peak vs off-peak rate)

Hong Kong Dollar

- 3-min.local call (peak rate)
- 3-min.local call (off peak rate)
Total Telecom Services Revenue

Million in HK $
Full-time telecommunication staff
GDP and Services contribution

Service contribution:

<table>
<thead>
<tr>
<th>Year</th>
<th>93</th>
<th>94</th>
<th>95</th>
<th>96</th>
<th>97</th>
<th>98</th>
<th>99</th>
<th>00</th>
<th>01</th>
<th>02</th>
<th>03</th>
<th>04</th>
<th>05</th>
<th>06</th>
<th>07</th>
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<tbody>
<tr>
<td>%</td>
<td>82.3</td>
<td>84.2</td>
<td>84.7</td>
<td>85.2</td>
<td>85.9</td>
<td>85.7</td>
<td>86.1</td>
<td>86.5</td>
<td>87.3</td>
<td>88.3</td>
<td>89.2</td>
<td>89.9</td>
<td>90.6</td>
<td>91.3</td>
<td>91.3</td>
</tr>
</tbody>
</table>
Thank you