MICROECONOMICS, NEW ECONOMY, AND COMMUNICATIONS POLICY: START WITH A PLAN

gwu

Reed Hundt Feb 2006

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TOP 5 GLOBAL INTERNET MARKET CAP LEADERS

Google ✠ Yahoo! ✠ eBay ✠ Yahoo! Japan ✠ Amazon.com

* $ 2 billion = market value – pre-2000 IPO  
* $178 billion = market value – Nasdaq peak – 3/10/00  
* $32 billion = market value – Nasdaq trough – 10/9/02  
* $197 billion = market value – 4/22/05

**Google included after company’s 8/04 IPO**

Where did this new value come from?

Culture of entrepreneurship  
Internet platform  
Open access to platform

WHAT IS THE INFORMATION (AKA COMMUNICATIONS) SECTOR?

In a digital age, it is electromagnetic waves modulated so as to carry binary code. It is also the hardware and software that transmits, receives, stores and displays such waves and code. Therefore, it includes all or part of such markets as:

- Cellular phones  
- Cellular service  
- Cellular networks  
- Data centers  
- Storage  
- Circuit switched telephone network  
- Broadcast TV and radio  
- Cable TV  
- Satellite radio  
- Satellite video  
- Cable modem (cable broadband)  
- DSL (telephone broadband)  
- Set-top boxes  
- Personal computers with wi-fi (or wi-whatever) chips  
- PVRs  
- DVDs  
- etc.

THE FCC MIGHT ‘REGULATE’ SOME PART OF THE WHOLE ECONOMY! EGAD!

What is the purpose of regulation of communications?

IF IT WERE EASY TO FIGURE OUT WE WOULDN’T HAVE ANYTHING TO TALK ABOUT

Let’s start with a plan for whatever is in our topic area because we know it is big and important
MOBILE INCREASINGLY IMPORTANT

<table>
<thead>
<tr>
<th>Country</th>
<th>Mobile phones Millions</th>
<th>Internet users Millions</th>
<th>Mobile phone to Internet user ratio</th>
<th>Installed PCs Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>334</td>
<td>94</td>
<td>3.6 : 1</td>
<td>42</td>
</tr>
<tr>
<td>U.S.</td>
<td>180</td>
<td>201</td>
<td>0.9 : 1</td>
<td>204</td>
</tr>
<tr>
<td>Japan</td>
<td>94</td>
<td>68</td>
<td>1.4 : 1</td>
<td>54</td>
</tr>
<tr>
<td>Germany</td>
<td>68</td>
<td>42</td>
<td>1.6 : 1</td>
<td>40</td>
</tr>
<tr>
<td>UK</td>
<td>54</td>
<td>30</td>
<td>1.8 : 1</td>
<td>26</td>
</tr>
<tr>
<td>Italy</td>
<td>54</td>
<td>26</td>
<td>2.1 : 1</td>
<td>15</td>
</tr>
<tr>
<td>South Korea</td>
<td>34</td>
<td>30</td>
<td>1.1 : 1</td>
<td>27</td>
</tr>
</tbody>
</table>

Source: Euromonitor, CNNIC, World Bank, Morgan Stanley Research – 2004 year-end data

Cellphone to PC

Client to server
Network of the future

THE PURPOSE OF THE RULE OF LAW IN THE COMMUNICATIONS SECTOR

1. To permit technological capitalists to make or grow markets
2. To encourage the most productive firms to win in those markets

THE ECONOMIC REASON FOR THIS PURPOSE

To increase the standard of living for all citizens (credit: Michael Porter)

- High employment in high value added jobs
- Productivity gains in outputs

The desired outcome...

The cost of communications per bit should verge toward zero....
Network architecture should be continually overbuilt to achieve greater efficiency...
Communications as an input to other goods and services should fall in price toward zero....
And the culture should use communications networks to define its beliefs and values!

AS OUR CASE IS NEW WE SHOULD THINK ANEW (CREDIT: LINCOLN)

Independent non-government commission should take a fresh look at globalized digital mixed mode multi-facility converged information sector

Possible recommendations:
1. Retail price deregulation
2. Service neutral and facility neutral tax policy
3. Neutral, efficient and open cost-based access to public property including spectrum
4. Decide what is or might be open in networks and layers
5. Transparent competition for public spending on public purposes – pick uses and users not services and service providers to subsidize
6. Some sensible allocation of jurisdiction across municipalities, states, federal and international authorities
7. Faster and more coherent rulemaking and enforcement: problem areas are divided antitrust jurisdiction, divisive regulatory behavior, and dilatory destructive judicial review
THE POINT OF COMPETITION IS TO CREATE, SEIZE, HOLD A BOTTLENECK” (credit: Bill Baxter)

The political explanation for the 96 act was that AT&T and the Bells each thought they could create value entering the adjacent voice market. The equilibrium of divided market share in local and long distance was never likely and did not obtain. The Bells sustained their fixed voice bottleneck against AT&T. AT&T would have succeeded in mounting effective competition, however, if they had retained their wireless company and their cable acquisitions.

Results

Wireless competition as a result of 93 OBRA
Internet value creation as a result of open access to fixed line network
CLEC entry caused value transfer to enterprises in voice market
LD entry caused LD value transfer to enterprises and consumers
CLEC entry would have caused consumer value transfer but for FCC flipflop post 9/11. (unep reversal)
Unbundling expanded entrepreneurship in networks and at application level (maximized entry possibilities)

WHAT TO DO

Law should never tighten or maintain bottlenecks
Equity investors should have a chance for short-term excess returns
Consumers and enterprises need no protection from market
A healthy culture needs a common medium for discourse (i.e., some universal service creates community)
The first amendment should not be read to permit any law that interferes with content — including free expression through voice and e-mail and IM based on an expectation of privacy

BRESNAHAN DOCTRINE

Goal: To win bottleneck, but not for long
Ways to arrange the game that way
• Divided technical leadership
• Epochal change
• Indirect entry

WHAT IS THE NAME OF THE OPEN GAME: STACK?

| Application | Yahoo! |
| Presentation | AOL |
| Session | Williams |
| Transport | Level 3 |
| Network | ATT, MCI (ATM) |
| Data link | VZ ftp |

WHAT IS THE THING OPENED: NETWORK?

• Connection to premises (copper or cable hook up or fiber or wireless antenna)
• Aggregation point (central office or bay station or caching center)
• Transport
• Larger aggregation point (data center)
• Inter-city or regional transport
• Long haul transport
• International gateway
• Satellite uplink
• Satellite
• International undersea cable
• Origination and Termination
**COMPARE TO THE COMPUTER INDUSTRY: WHAT IS OPEN?**

- **BB Network**: Municipality, cable, telco, wireless
- **OEM**: Dell the service provider
- **Apps**: Skype
- **O/S (msft/linux)**
- **Chip (intel/amd)**

**WHAT DO YOU WANT “OPEN” TO MEAN?**

- **OPEN to all content**: Volume, Speed, Intellectual property rights, Conflict, Point of view
- **OPEN to all networks**: Interconnection, Intercarrier compensation, Data centers (911, directories)
- **OPEN to all people**: Ubiquitous, Mobile, Affordable, Accessible (disabled, non-English)
- **OPEN to all designs**: Open protocols

**WHAT COUNTRY DO YOU WANT TO COPY?**

10%+ OF JAPANESE HOUSEHOLDS HAVE VoIP SUBSCRIPTIONS

<table>
<thead>
<tr>
<th>Consumer perception of VoIP quality</th>
<th>VoIP households</th>
</tr>
</thead>
<tbody>
<tr>
<td>As good as cellular</td>
<td>55.9%</td>
</tr>
<tr>
<td>Better than fixed phone</td>
<td>26.0%</td>
</tr>
<tr>
<td>Still inferior to fixed phone</td>
<td>18.1%</td>
</tr>
<tr>
<td>Worse than cellular</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

**VoIP IN A NUTSHELL**

**What is VoIP?**

- Voice traffic transported in data packets over the public Internet or private data networks, rather than “voice signal” over public switched telephone network (PSTN)
  - Internet Protocol (IP) enables communication between diverse devices by routing data packets without dedicated pathway
  - Voice over IP (VoIP) is a way to transmit voice conversations over a data network using IP
  - Internet telephony (or “peer-to-peer” telephony) allows voice calls to be made between PCs over the public Internet using IP

**Why the hype?**

- VoIP will bring down industry pricing and change the distribution of value among service providers. It opens door to host of new applications
- VoIP substitutes for standard voice products and services
- Firms incorporate VoIP into new product offers

**Why now?**

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**VoIP COULD BUILD BROADBAND USA**

- **OPEN VALUE CHAIN = common carrier, interconnection, protocols**
  - Shift revenue from voice to data
  - Shift consumers from nb to bb
  - Merge computers and telephones
  - Mutate universal phone to universal bb

Remember: "All new media use old media as content"

“Eventually, new media become platform for new content”

Source: NTT; Yahoo Research Institute; McKinsey market survey
TESTING RECOMMENDATIONS AGAINST VoIP

1. Price deregulation – yes
2. Neutral tax policy – yes
3. Wireless broadband should have access to public property (spectrum, poles)
4. Open mind about open bottlenecks
5. Should subsidize VoIP not voice, broadband not circuit, if subsidize anything
6. Best time to harmonize across jurisdictions is now
7. An antitrust plan would be helpful to achieving economic purpose
8. It’s a trade issue too
9. Possibility exists of substantial productivity gains and great increase in new value added jobs
10. People and firms of stature could recommend and advocate!

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- Volume
- Speed
- Intellectual property rights
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