The Value of Public Service Broadcasting as the Commons

Kiyoshi Nakamura
CITI, Columbia University, NY
SILS, Waseda University, Tokyo

November 03, 2006

Telecom & Broadcast in Japan

- Telecom $132.5 billion
- Broadcast $30.8 billion
  - Broadcast is only 1/5 of telecom
Terrestrial Broadcasting Market in Japan (Revenue basis, 2004)

Total $30.8 b

- Commercial $21.6 b (65.8%)
- NHK $5.7 b (17.3%)
- Cable $2.9 b (8.9%)
- Satellite $8.0 b (8.0%)

Broadband in Japan (Revenue basis, Sept. 2006)

Total $24.22 b

- DSL $14.49 m (59.8%)
- FTTH $6.31 m (26.1%)
- CATV $3.41 m (14.1%)
NTT

• NTT shares in Broadband markets
  - DSL: NTT (36.4%) BB (35.1%)
  - FTTH: NTT (64.6%) Power (15.6%)
  - IP: NTT Com (39.8%) NTT(24.9%)

Big 5

• Five major Tokyo-based commercial broadcasters & its relations with the newspaper companies
  - Nippon TV Yomiuri (16.1%)
  - TBS Mizuho (9%) Rakuten (8.9%)
  - Fuji ( Nippon Radio 19.5%)
  - Asahi Asahi (32.8%)
  - Tokyo TV Nikkei (33.6%)
Digital Broadcasting

- Total households: 48 million
- Digital terrestrial broadcasting (2006)
  - Direct reception: 28.04 m households (60%)
  - Via Cable: 11.50 m households (40%)
- Sales of digital TVs
  - 8 million units
- Terminating date: July 24th, 2011

NHK: A Sole PSB

- Channels:
  - 2 terrestrial channels
  - 3 satellite channels
  - 3 radio stations
- Voluntary subscription fee system without legal penalty
- 70.4% of 45.99 million subscription pays, as of Nov. 2005.
- 30% (13.8 million) are “free riders”, whose number is increasing.
PSB in Analog Era

- Market failures
  - Undersupply of public service programs
- Policy options
  - Institutional arrangement
    - BBC, NHK, PBS
  - Regulations
    - obligations and quota, must-carry

The Dual System

- PSB aims at
  - remedying **market failures** and maintaining diversity and plurality
- Different **funding** systems vary
  - from license fee to a mixed funding
3 As

- Availability
- Accessibility
- Affordability

Digital Impact on Supply

- Multiple channels
- Interactivity
  - Intensifying competition
  - Eliminating the scarcity rents of incumbents
Digital Impact on Demand

- Changes in preference and taste
  - Fragmentation and Niche
- Participation in production
  - Blogging & Social networking

Digital Impact

Source: Skyperfect
Convergence
Telecom: Broadband
↓
IP multicast
Broadband video supply
↑
Broadcast: Digitalization & Multi-channel

Pro-Public-Supply Profile
% share of factual, cultural and children’s programs, weighted by their audience share.

Market Distinctiveness

Market  Non Market

Donation
Grant
US
Grant Advertising
Portugal
License fee
Advertising
France/Italy/Germany
License fee
Sweden/UK
Market Distinctiveness

- The % of factual, cultural and children’s programs broadcast by the principal broadcasters in the market (public service and commercial), weighted by their audience share.

- Increasing potential for the market supply of PSB-type programs due to multi-channel

The Effect of Multi-Channel on Public Programs
### Market Failures in Digital Era

<table>
<thead>
<tr>
<th>Market Failures</th>
<th>Analogue Era</th>
<th>Digital Era</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Power</strong></td>
<td>Cosy Oligopoly</td>
<td>Potential competition</td>
</tr>
<tr>
<td><strong>Public Goods</strong></td>
<td>Non Rivalry</td>
<td>Increasing rivalry</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Increasing excludability</td>
</tr>
<tr>
<td><strong>Externalities</strong></td>
<td>Merit goods &amp; social</td>
<td></td>
</tr>
<tr>
<td></td>
<td>minimum</td>
<td></td>
</tr>
<tr>
<td><strong>Asymmetric Information</strong></td>
<td>Yes</td>
<td>Increasing transparent</td>
</tr>
</tbody>
</table>

### The Effect of Multi-Channel on WTP Demand Side

[Diagram showing the effect of multi-channel on WTP demand side with LRMC and a, b, c points on the x-axis representing Public Service Programs.]
Social Preference Functions

Non-Public Service Programs

Public Service Programs

Citizen or Consumer?

Public Service Programs

Non-Public Service Programs
Focusing Two Issues

- Traditional rationales of market failures for PSB is waning.
- Externalities and “citizenship” concerns remain, but their scale and scope are limiting.
  1. To what extent market can supply public service programs?
  2. PBS satisfies “value for money”?
(1) A Look-Alike?

- Four elements in case of “news”
  - Personalization
  - Dramatization
  - Fragmentation
  - The authority-disorder bias
    - W. Bennett: News
- Are “History Channel” or “Discovery Channel” substitutes for PSB programs?

From “Forced Riders” to “Easy Riders”?

- Discrepancy between “what people want to watch” and “what people ought to watch” is widening.
(2) Value for Money

- The economics of multi-channel system enables private broadcasters to cater to market niches.
- Is the current funding for PBS satisfied “value for money”? 

Recent Studies

**BBC & NHK**

- **License fee revenue**
  - BBC: $1.5 billion
  - NHK: $5.5 billion

- **Audience share**
  - BBC: 34.9%
  - NHK: 23% (Top 100 programs)

**BBC Value**

- **The total values**
  - £20.70 - £23.50

- **The consumer value**
  - £18.35 - £18.70

- **Almost double** the current £10

- **Externalities**
  - 10-25% of the social value
NHK Value

- Willing to pay
  - ¥1,780 ($16): terrestrial broadcasting
  - ¥1,245 ($11): satellite broadcasting
  - Total: ¥3,025
- Almost about 30% higher the current ¥2,340
- No estimation about externalities

Evaluating NHK Programs

Source: NHK 2006

- Accomplishment
  - Emergency & alert
  - Accurate & prompt news
  - Sports
- Desirability
  - Enhancing national Identity & Culture
  - Filling information asymmetry
  - Producing global standards programs
  - Conveying Japan & Asia values
Ideal “Voluntary” Funding

- Free riders: 30% (13 million) of household are not paying
  - Shift from voluntary to mandatory

- Accountability
  - Organizational restructuring
    - reduction in owning channels

Economic Issues

1. Excess entry does matter?
2. What effects of individual behavior on program?
3. What impact of PVR on advertising revenue?
4. How to measure the “quality”?
5. How to quantify externalities?

The Hotelling Model of Program Quality

\[ s_i = \frac{1}{2} \left( \frac{u_i - u_r}{2} \right) \]

\[ u_i = u_r - \delta n_i - p_i \]

\( u \): utility

\( v \): the quality of program

\( n \): the number of advertisement

\( p \): the subscription charge

\( t \geq 0 \): the degree of channel differentiation

\( R(n) \): advertisement revenue per person

\[ \pi = \left( \frac{1}{2} + \frac{u_r - \delta n - p}{2r} \right)(p_r + R(n)) - \frac{1}{2} \gamma v^2. \]

The Main Results of the Economic Analysis

- Commercial TV involves lower quality programs and more advertisements, compared to the pay-TV.
- Viewers are better off in a commercial TV if there is little scope for affecting program quality.
The Impact of Digital Broadcasting

- Digital broadcasting is less prone to market failures and supply the programs viewers wish to watch.
- The market failure rationale for PSB largely fades.
- The remaining rationales for public intervention is linked to externality and citizenship concerns.

Evolving The Online Market

- Drastic increase in UGC (User Generated Content) and social networking
  - Wikipedia
  - YouTube
Key Questions

- While broadcasting market is changing from a “special” market to a “normal” market, do market failures call for some contribution of PSB obligations?
- Could public support arrangements such as subsidies achieve the optimal choice?

The Digital Commons

- Some insist that PBS has a pivotal role to play in building the digital commons.
- BBC & NHK have not only the capability of producing content but also own the archives
  - US: The Creative Commons
  - BBC: The Creative Archive
Policy Options

• Competition as a stimulus for efficiency
  1. Vertical disintegration
     - Network separated from content production
       • MovieBeam (National Datacast)
  2. Contestable funding
     - Bidding public fund to enhance public service programs
A Two-Sided Sword

- Preventing some value-reducing behaviors (the tragedy of the commons)
- Preventing some value-enhancing behaviors (the tragedy of the anti-commons)

Digital Impact on Public Service Broadcasting

**Structure**
- New Platforms
  - The Internet Service Providers
  - Mobile Broadcasters

**Demand**
- Consumer Preference
  - Blogging
  - Social Networks
  - Wikis
  - Photo-sharing

**Conduct**
- Vertical Separation
- Horizontal Specialization
- Alliances

**Performance**
- Universality
- Education & Information
- National Identity
- Diversity & Plurality
- Efficiency
- Technology Advance

Market Supply?
Regulatory Challenges

- Digital Convergence & The Internet
- Drastic Changes in Market Structure and Strategic Behaviors

↓

- Regulatory Certainty
  - Setting Clear Objectives and Defensible Criteria
  - Responding to the Needs of Users
  - Identifying Policy Options