

Considerations in Updating Broadcast Regulations for the Digital Era

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Broadcast television, the undisputed king of entertainment in the household, is preparing for the transition to digital broadcasting in the single most important development since the advent of the television era. This paper examines the regulatory implications of the transition to digital broadcasting for the broadcast industry.

1. Broadcast Regulations of the Analog Era

Present regulation of the broadcast industry derives its rationale from the technological characteristics of terrestrial analog broadcasting. Two characteristics in particular distinguish current broadcasting from other media: (1) the limited broadcast spectrum, which means that frequencies must be allocated, and (2) broadcasting's large influence on society.

Because the broadcast spectrum is limited, the broadcast medium is susceptible to oligopoly. Ownership of broadcast channels is thus restricted by setting maximum investment ratios for television stations (media concentration rules of the Ministry of Posts and Telecommunications) With regard to the second characteristic, the large social influence exerted by broadcasting makes it necessary to regulate program content so as to promote broadcasting in the public interest.¹

These considerations form the basis of the present regulatory framework for the broadcast industry, which is composed primarily of terrestrial and satellite broadcasting (BS and CS) as shown in Table 1.²

Table 1 Composition of the Broadcast Media

Terrestrial analog broadcast	Private key stations in Tokyo : 5 cos.	Commercial
	Private local stations : 109 cos.	Commercial
	Private independent UHF stations : 13 cos.	Commercial
	NHK (general & educational channels)	Public
BS analog broadcast	NHK (satellite channels 1&2)	Public
	Japan Satellite Broadcasting (WOWOW)	Subscription
CS digital broadcast	Private operators (SkyPerfectTV, DirecTV)	Subscription

Source: NLI Research Institute

2. The Digital Broadcast Era

(1) Full Digital Broadcasting in the Next Decade

Digital transmission was first introduced by communications satellite broadcasters in 1996. This was followed in 1997 by the decision to convert BS broadcasting to digital technology by the end of 2000. In terrestrial broadcasting, the official time line announced in 1998 calls for the three major metropolitan areas to start digital broadcasting by the end of 2003, and other areas by the end of 2006 (Table 2)

Table 2 Schedule for Start of Digital Broadcasting

	Terrestrial digital broadcast	BS digital broadcast	CS digital broadcast
1996			Oct: PerfecTV begins broadcasting
1997	Oct: MPT announces terrestrial digital broadcast guidelines	Feb: Formal decision is made for digital broadcasts on second BS-4 satellite	Dec: DirecTV begins broadcasting
1998	Oct: Schedule is set for terrestrial digital broadcasts	Oct: Digital broadcasters are approved	May : PerfecTV & JSkyB merge into SkyPerfecTV
2000	Experimental broadcasts begin in Kanto area	Oct: Second BS-4 satellite is launched Dec: Digital broadcasts begin	
2003	Regular digital broadcasts begin in 3 metropolitan areas		
2006	Regular digital broadcasts begin nationwide		
2010	Analog broadcasts are completely phased out		

Source: Compiled from MPT materials.

Because digital broadcasting uses the same binary signals as computers, it is free of static and distortion compared to analog broadcasting, and the data content is easier to process. The merits of digital broadcasting include improved image quality, substantially larger capacity, and new services such as data broadcasting. Digital CS broadcasting, for example, presently transmits over 100 channels.

Table 3 shows the future lineup of digital broadcasters. All present terrestrial broadcasters will convert to a digital format. In BS digital broadcasting, NHK and private BS analog broadcasters are scheduled to be joined by five companies who are presently terrestrial broadcasters centered in Tokyo, and one CS broadcasting company.

Table 3 Entries in Digital Broadcasting

Terrestrial digital broadcast	Present terrestrial broadcast stations	114 network affiliates; 13 independent UHF stations
	NHK	(General & educational channels)
BS digital broadcast	5 private terrestrial broadcasters (centered around Tokyo key stations)	BS Nihon, BS Fuji, BS Asahi, BS Japan, Japan Digital Communications
	NHK	(Same as present BS analog and HDTV broadcasts)
	1 private BS analog broadcaster	Japan Satellite Broadcast (WOWOW)
	1 private CS digital broadcaster	Star Channel
CS digital broadcast	2 private CS digital broadcasters	SkyPerfecTV, DirecTV

(2) Digital Technology Weakens Rationale for Regulation

Digital broadcasting alleviates much of the technological limitations of analog broadcasting which form the basis of present regulations.

For example, compression technology allows digital broadcasting to broadcast more programs than analog broadcasting over the same frequency. This greatly reduces bandwidth limitations and thus the need to regulate against the concentration of media.³

Digital broadcasting also vastly alters the situation for the other basis of regulation, influence on society, because it greatly increases the number of genre-specific channels for special interests such as movies and news. Since specialized channels broadcast to narrow audience segments who are subscribers, it makes little sense to regulate all broadcasters equally based on the influence on society rationale.

In light of these considerations, the upcoming transition to full-fledged digital broadcasting calls for a new regulatory regime that reflects new technological realities.

(3) Desirable Medium-term Guidelines for the Broadcast Industry

Thus far, attempts to revise broadcast regulations have been piecemeal and without a clear medium-term vision for the broadcast industry. This is because Japan has been hastily trying to catch up with Europe and the U.S. in the area of digital broadcasting.⁴

Given the present penetration rate of television broadcasts, unless the general public understands where broadcast services are headed in the medium term, the transition to digital broadcasting could cause confusion. This is because people will not be able to view digital broadcasts unless they install adapters on their television sets or buy a digital television receiver.

Thus regulators and broadcasters urgently need to work out concrete plans for the broadcast industry in the medium term so that they can prepare the general public for the transition.

3. Future Image of Broadcast Media

We now look at how broadcast media companies will change by 2010, when terrestrial analog broadcasting will be completely phased out.

(1) Key Terrestrial Broadcast Stations to Grow into Comprehensive Media Companies

The key terrestrial broadcast stations are already among the nation's top content providers, having built up their program production capabilities by supplying programs to network affiliates. The key stations will continue to increase their program production capability and develop into comprehensive media companies by moving into BS broadcasting, movies and CS broadcasting.

(2) Local Terrestrial Broadcast Stations to Become Local Information Media Companies

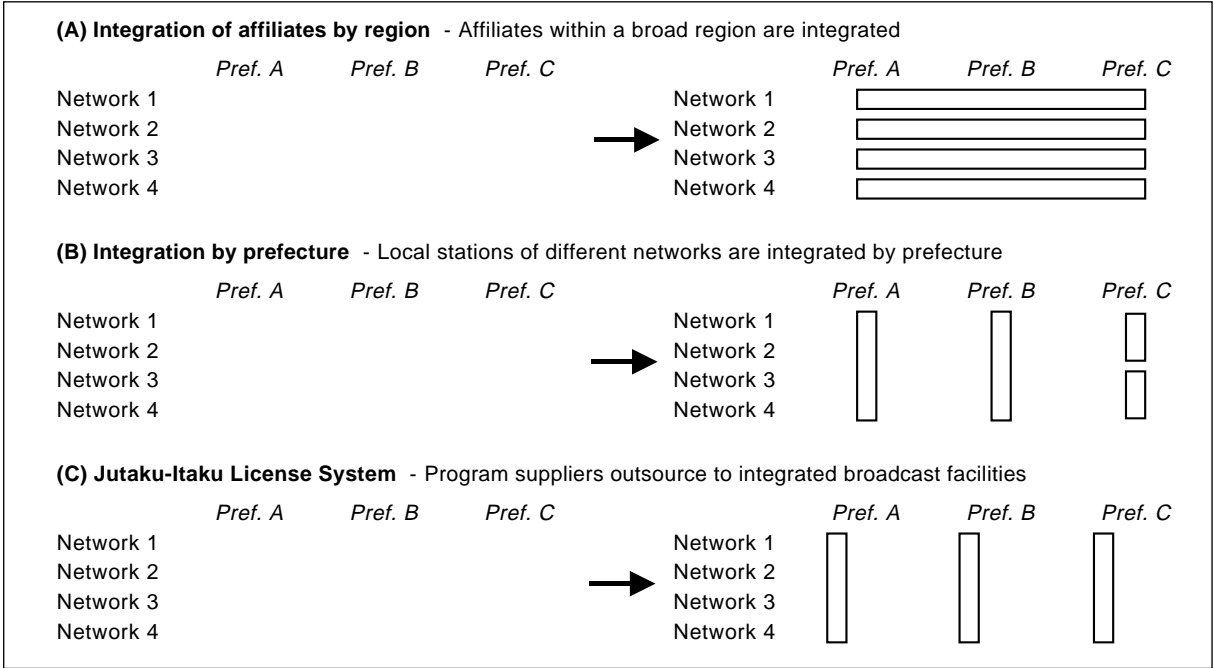
To compete with BS digital broadcasters for ratings and advertising revenue, local terrestrial broadcast stations must capitalize on the main weakness of BS broadcasting - the lack of local content. Thus we see local stations becoming local information media companies whose defining characteristic is the supply of detailed local information.

However, since local markets will not be able to sustain the present number of companies, we expect to see the industry consolidate in many markets.

Three patterns of restructuring are conceivable (Figure 1): (a) combine same-network

affiliates by area, (b) combine affiliates of different networks by prefecture, and (c) combine broadcast facilities, while outsourcing program production.

Figure 1 Scenarios for Restructuring Local Terrestrial Stations



Source: NLI Research Institute

The third pattern is the *jutaku-itaku* licensing system introduced in CS and BS digital broadcasting.⁵ Its aim is to divide the massive investment outlays required in the transition to digital broadcasting by licensing broadcast facility operators and program suppliers separately.

Since the first two patterns face serious impediments – difficulties in defining regional boundaries and conflicting interests among investors, respectively – the third pattern is probably the most realistic. However, to introduce separate licensing of broadcasters and program suppliers, the present terrestrial broadcast licensing system needs to be revised (it requires that the owner of broadcast facilities also be the program producer)

(3) NHK to Expand Role as Public Broadcaster

With digital broadcasting, private operators are predicted to acquire a stronger commercial tint and move into new services outside of broadcasting.⁶ Thus NHK, as the social infrastructure for providing basic information needed by the general public, will need to perform a greater public role that it is now doing.

(4) Fee-Charging Broadcasters to Perform Boutique-Type Broadcasting

The fee-charging BS and CS broadcast market lags conspicuously behind Europe and the U.S., and will need to be stimulated most. One reason for the slow growth is that despite being a subscriber-based market, the same operating restrictions are applied as in terrestrial broadcasting.

As a result, the market is expected to grow by enhancing its specialized boutique-type lineup of broadcasts to appeal to a wider audience.

(5) Broadcast Media to Form Two Categories

The future image of the broadcast media and key issues are summarized in Table 4. Essentially, the broadcast media will evolve into two categories: (1) broadcasting, where programs are produced and transmitted to a wide audience, and (2) narrowcasting, which resembles a video distribution service aimed at subscribers. Narrowcasting is situated between broadcasting and communications, and shares characteristics of both fields. The demarcation between broadcasting and narrowcasting is likely to occur in BS broadcasting, which will be supported by both commercial advertising and subscriptions.

Table 4 Future Image of the Broadcast Media

	Future image	Major issues
Broadcasting		
Terrestrial key stations	Centered around terrestrial and BS broadcasts, will become comprehensive media companies with CS broadcasts, movies, music, etc.	To enhance capability to supply both terrestrial and BS broadcast programs
Local stations	Will emphasize strength as local information media companies	To enhance local program production capability
NHK	As a public broadcaster, will contribute to public interest	To increase operating efficiency & transparency
BS broadcast (commercial)	Will grow into comprehensive media company (managed by terrestrial key station)	To facilitate transition from analog broadcast
Narrowcasting		
BS and CS broadcast (subscription)	Will expand viewer's range of choices by providing specialized boutique channels	To gain enough subscribers to become profitable

Source: Compiled by NLI Research Institute.

4. Regulation for the Digital Era

Below we consider the regulatory framework to effect a smooth transition to the future image of media described above, and the types of operators who will provide the services.

(1) Separate Regulation of Broadcasting and Narrow casting

In discussing a regulatory framework for the digital era, we focus on the four factors discussed thus far:(1)media concentration rules,(2)program content rules,(3)the jutaku-itaku broadcast licensing system, and(4)the key players of broadcasting(Table 5)

Table 5 The Regulatory Framework for the Digital Era

	Media concentration rule	Program content monitoring	Introducing jutaku-itaku system	Main players
Broadcasting				
Terrestrial (private)	Applies	Indirect (self-monitored)	Possible	Present terrestrial broadcasters
NHK (terrestrial, BS)	Not applicable	Indirect (self-monitored)	Terrestrial, no; BS, yes	Same as present
BS (commercial)	Applies	Indirect (self-monitored)	Yes	Terrestrial private broadcasters
Narrowcasting				
BS (subscription)	Does not apply	None in principal	Yes	Unlimited
CS	Does not apply	None in principal	Yes	Unlimited

Source: NLI Research Institute

It will be necessary to regulate broadcasting and narrow casting separately. Broadcasting should retain much of its present regulatory framework, while narrow casting should enjoy a deregulated environment to the fullest extent possible.

(2) Review of Media Concentration Rules

Thanks to the vast expansion of channels afforded by digital compression technology, narrow casting is virtually free of spectrum limitations that would justify media concentration rules. On the other hand, the number of broadcast channels will remain relatively limited, since future HDTV broadcasting will require considerable bandwidth while terrestrial digital broadcasting will occur in the UHF band.⁷

Because broadcasting will continue to experience spectrum limitations, the continued enforcement of media concentration rules is warranted. And for the same reason, ownership restric-

tions of channels should be repealed for narrow casting.

(3) Review of Program Content Rules

The social influence exerted by broadcasting will not change significantly under digital broadcasting because it will continue to reach a wide audience. Thus program content rules will remain necessary. However, since freedom of expression may be threatened if regulators become directly involved in program content, the present framework of indirect regulation (self-regulation by broadcasters) should be retained.

For narrow casting, whose social influence is relatively small owing to its audience of subscribers, program content rules should be repealed (of course, operators who violate the public interest must still be protected under other laws including the criminal code)

(4) Introducing the *Jutaku-Itaku* Licensing System for Terrestrial Broadcasting

The merit of the *jutaku-itaku* licensing system is that by distinguishing facility owners from program producers, the investment burden of broadcasting can be dispersed. Considering the heavy investment burden of switching to digital broadcasting, the *jutaku-itaku* system should be introduced for terrestrial broadcasting (see Figure 1 (c))

Since public broadcaster NHK is expected to play a lead role in the transition to digital broadcasting, its terrestrial broadcasting operation should be left untouched.

(5) Key Players in the Broadcast Industry

Assuming that the present regulatory framework remains in place, the present broadcasters should continue to be the key players in the industry.

To create a competitive environment in narrow casting, barriers to entry should not be built. Competition from new entrants including foreign competitors will lead to the healthy growth of program suppliers.

While broadcasting today is an important facet of national life, the public still has very little interest or knowledge of the upcoming transition to digital broadcasting. Both regulators (MPT) and broadcasters need to take immediate action to inform the public about the transition schedule and the transition's impact on the viewing public.

Notes

1. Regulators do not directly monitor program content. Instead, program content is self-regulated by the industry (through the Broadcast Programming Council, etc.) to maintain quality standards.
2. Since Japan's BS (broadcast satellite) and CS (communications satellite) broadcasts use different broadcast systems, their reception requires different antennae and receivers.
3. In CS digital broadcasting, which began in 1996, regulations to prevent concentration of mass media have already been eased. Presently, if four or less satellite transponders are used, the number of broadcast channels is unrestricted.
4. Terrestrial digital broadcasting has already begun in the U.K. and U.S.
5. The *jutaku-itaku* (outsourcer-client) licensing system licenses operators of broadcast facilities and program producers separately. In CS digital broadcasting, the company that owns the satellite is the outsourcer, and the program supplier is the client who outsources broadcast services.
6. One service under consideration is data broadcasting, which uses the bandwidth between channels to transmit program information, local information, news, etc.
7. Present terrestrial analog broadcasting uses both VHF and UHF bands. Terrestrial digital broadcasting is scheduled to use the low-band portion of the UHF band.