

Competition Review in the Japanese Telecommunications Market

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Summary

Since the privatization of Nippon Telegraph and Telephone Public Corporation and the liberalization of the telecommunications market in 1985, the Ministry of Internal Affairs and Communications (MIC) has changed its “ex-ante” regulation of the telecommunications business into the “ex-post” regulation in 2004. In April 2004, with the advancement of competition, the Telecommunications Business Law was substantially amended to realize drastic institutional reforms, including the abolition of regulations on market entry, tariffs and agreements, in principle. The regulation system greatly shifted from *ex ante* to *ex post* basis. Consequently, the number of enterprises entering the telecommunications market has largely increased, and due to the advancement of technological innovations, the emergence of diverse services such as mobile communications and Internet access, the promotion of deregulatory measures and other factors, the competition among the telecommunications carriers progressed, prompting the significant development of the telecommunications market. Two kinds of drastic structural changes—“a shift to mobile” and “a shift to broadband and IP”—are occurring in the Japanese telecommunications market. In such a rapidly changing circumstances, it is essential to evaluate the market competition with a focus on fixed-telephony, mobile communications, and broadband services, in order to figure out the trend of the telecommunications markets accurately and rapidly. The MIC has conducted the Competition Review since fiscal year 2003 to ensure that the tendencies above are reflected in government policies. This article firstly considers about market definition from a legal viewpoint, and secondly, it generalizes the current condition of competitions in the telecommunications business by summarizing the Competition Review, and finally, the article examines the challenges that the Competition Review face in the telecommunications business field.

Key Words: Competition Review, Telecommunications, Market Definition, Antimonopoly Law, SSNIP Test

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I. Introduction

In the telecommunications market, the development of regulatory reforms and technical innovations led to the integration of traditional service segments, such as voice or data, fixed or mobile, wireless or wired and narrowband or broadband, and the emergence of new types of services. The development of mobile, IP and broadband services in particular led to the diversification of types of services, with the result that the situation of competition between service providers has become promoted and very complicated. A recent shift to IP, broadband communications and ubiquitous computing has been under way in the telecommunications market. The emergence of mobile communications and the Internet access has drastically changed the market environment for fixed telephony, and users have become less conscious of the distinction among voice, data and video and between wireless and wireline communications. Services and their supply structure, interrelations among telecommunications carriers and other factors are undergoing major changes¹⁾.

In this situation, it has become more and more important to assess the development of competition in the telecommunications market properly and examine what competition should be. In Japan, in these years, improvement of nation's welfare through the promotion of information and communication technology (ICT) has been widely recognized as the direction to be taken not only by business communities but also by society as a whole. Development of this direction requires the government's implementation of regulatory reforms and competition policies that attaches great importance to market competition. This is because advanced countries' common challenge is how to constrain the emergence of dominant firms and abuse of dominant market position by that firms and maintain and promote *free* and *fair* competition under the situation where the ICT revolution has caused various changes, which include global and qualitative changes in competition. Because the judgment as to whether or not companies are in a dominant "market" position is impossible without "market definition", how to define markets is very important as a precondition for competitive effect analysis. In fact, the degree of progress in competition among telecommunications carriers is not necessarily the same, varying from one service to another and from one region to another. For this reason, it is necessary to grasp changes in the status of competition accurately and without delay by defining markets and analyzing the status of competition in each market on a continuous basis.

In order to make regulations put into effect, proper measures and systems should be

1) See The Ministry of Internal Affairs and Communications, Guidelines for the Competition Review in the Telecommunications Business Field 2006-2008, section 1-2 (1).

considered not only from the viewpoint of maintaining and promoting competition but also from the viewpoint of taking a socially desirable direction based on the technological and economic conditions peculiar to telecommunications industry. Because the latter viewpoint contributes also to high-level development of competition, the telecommunications policy should not be a dichotomous way of thinking between competition or regulation but comprehensive examination should be needed. Such examination places importance on how to assess the rapidly changing status of competition in the telecommunications industry and how to clarify and refine the competition review method. Because of this background, the Ministry of Internal Affairs and Communications (hereinafter referred to as “MIC”) started the “Review of the Status of Competition in the Telecommunications Business Field” (hereinafter referred to as the “Competition Review”) from fiscal year 2003²⁾. Competition Review is a system implemented by MIC to monitor the constantly changing telecommunications services, such as trends in broadband communications and spread of IP. The Competition Review also conducts analyses and assessments to see if competition functions appropriately and then reflects required adjustments through government policies. This article examines the present status and problems of the Competition Review.

II. Competition Review in Telecommunications Market

1. A Brief History of the Competition Review

The telecommunications market was exclusively occupied by Nippon Telegraph and Telephone Public Corporation until 1985. When it was privatized into Nippon Telegraph and Telephone Corporation (hereinafter referred to as “NTT”) and the market was liberalized in 1985, new companies entered into the market, which became competitive gradually. When the Telecommunications Business Law³⁾ was substantially revised in April 2004, the regulation system was greatly shifted from *ex-ante* to *ex-post* basis. Amendment of the Telecommunications Business Law realized drastic institutional reforms, including the abolition of regulations on market entry, tariffs and agreements in principle. Since these

2) Since fiscal year 2003, MIC has conducted the Competition Review each year. In carrying out the Competition Review, MIC cast fiscal year 2003-2005 as the phase 1 and made analyses of the status of competition in four areas: “Fixed telephony,” “Internet access,” “Mobile communications” and “Intra-company networks.” Fiscal year 2006-2008 is cast as the phase 2. And this document “Guidelines for the Competition Review in the Telecommunications Business Field 2006-2008” will lay down the basic guidelines for the second phase of Competition Review, based on the results of the first phase of Review and communications with telecommunications carriers. The author was involved in drafting the Guidelines.

3) Law No. 86 of December 25, 1984. As amended last by: Law No. 50 of May 30, 2008.

structural changes, a number of telecommunications carriers have entered into the market, and due to the advancement of technological innovations, the emergence of diverse services such as mobile communications and Internet access, the promotion of deregulatory measures and other factors, the competition among the telecommunications carriers progressed, prompting the significant development of the telecommunications market. In the Japanese telecommunications market, two large structural changes have developing rapidly. The first structural change is “development of mobile communications.” For example, the number of subscribers of mobile communications (cellular phone + PHS) exceeded the number of fixed phone subscribers in 2000. The second structural change is “development of broadband and IP communications.” This change is clearly indicated by the fact as follows. The number of broadband subscribers was more than 26.44 million and the number of IP phone subscribers was more than 14.33 million as of the end of March 2007. Besides the number of subscribers to third generation mobile phones and that of subscribed internet protocol (IP) telephony exceeded 69 million as of the end of March 2007. Moreover, As a proportion of broadband Internet subscriptions has been increasing, the number of subscribers to fiber to the home (FTTH) service exceeded 7.9 million as of the end of December 2006. Based on these changes in the telecommunications market, the Telecommunications Council made the following suggestions in the “Final Report on Desirable Pro-Competitive Policies in the Telecommunications Business Field for Promoting the IT Revolution” in August 2002: Market power should be analyzed through periodic market analysis so that the review will be fully based on the state of progress in competition in the actual market and more detailed examination is necessary for early arrival at a conclusion on how to carry out effective competition review (market analysis) periodically in Japan’s telecommunications business field.

Responding to these suggestions, since Fiscal Year 2003, the MIC has conducted the Competition Review each year (see **Table 1**). Competition Review is based on comparative study⁴⁾ and the analytical framework of the Antimonopoly Law, and its objective is to grasp market trends accurately and have them reflected in the Japanese telecommunications policies. The promotion and implementation of MIC’s Competition Review is included in the “Revised Three-year Plan Promoting of Regulatory Reform” (decided at the Cabinet meeting of March 25, 2005),⁵⁾ the “Priority Policy Program 2006” (decided

4) An extensive frame of reference regarding market analysis mechanisms and methodologies was provided particularly by European Commission [2002] “Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive). For a detailed discussion of the relevant informations, see an appendix to Ministry of Internal Affairs and Communications [2006a] “Competition Review in the Telecommunications Business Field in FY2005.”

5) “III 4b Promotion of Fair Competition in Telecom Business” in Revised Three-year Plan Promoting of Regulatory Reform states that “the state of competition in all key telecom business fields of (1)

by the IT Strategic Headquarters on July 26, 2006),⁶⁾ the “Process Program for Reforms in the Communications and Broadcasting Sectors” (announced by MIC on September 1, 2006)⁷⁾ and other government undertakings.

Furthermore, MIC set up the “Study Group on a Framework for Competition Rules to Address the Transition to IP-Based Networks” in October 2005, and published the report finalized by the study group in September 2006. On the basis of the recommendation of the report, MIC formulated a roadmap of measures to be implemented by the early 2010’s titled the “New Competition Promotion Program 2010” which includes: 1) review of designated telecommunications facilities system (regulations for dominant telecom carriers); 2) review of calculation method for interconnection charges; 3) establishment of interconnection rules concerning the next-generation networks (NGNs); 4) competition promotion in the mobile communications market; 5) network neutrality; and 6) the review of the universal service system. These policies are based on the Competition Review in many aspects.

Table 1 Chronological table of the Competition Review

1985:	Liberalization of telecommunications market and privatization of Nippon Telegraph and Telephone Public Corporation
2000:	The number of subscribers of mobile communications (cellular phone + PHS) exceeded the number of fixed phone subscribers.
2002:	Telecommunications Council suggested the introduction of Competition Review.
2003:	Competition Review in the Telecommunications Business Field (first term).
2004:	Substantial relaxation of regulation of entry and abolition of charge and contract regulation in principle (Amendment of the Telecommunications Business Law)
Jan. 2006:	Implementation of competition review in the electricity business field
Aug. 2006:	Implementation of competition review in the gas business field
Oct. 2006:	Determination of Competition Review Guidelines 2006-2008 (beginning of second term)
Nov. 2006:	Determination of Details of Implementation 2006
Nov. 2006:	Establishment of Competition Review Advisory Board
Apr. 2007:	Determination of Market Definition 2006

Source: by the author

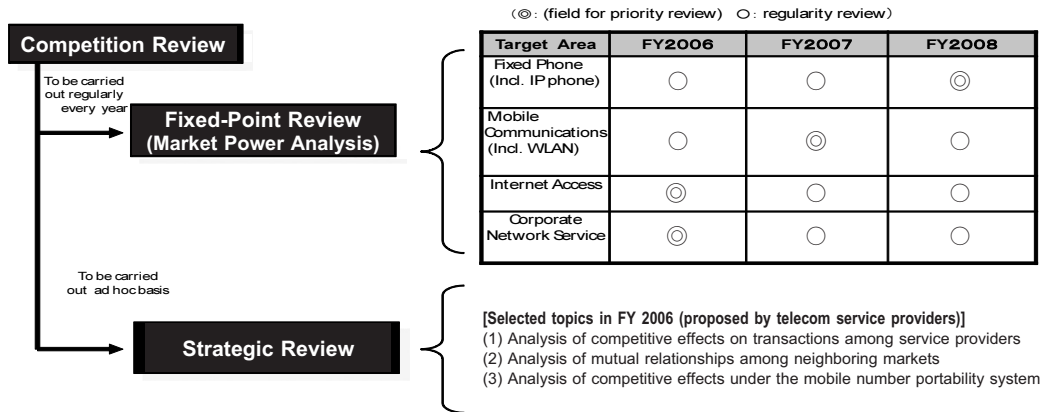
fixed-line phones, (2) mobile communications, (3) Internet access, and (4) network services for corporations will be analyzed and assessed, particularly by emphasizing transparency and objectivity, and accordingly, (omitted) the degree of competition that has developed will be mapped appropriately to the development of competition policy.”

6) “2. 2(2)(a) Implementation of Competition Review in the Telecommunications Business Field” in the Priority Policy Program 2006 states that “competition reviews will be conducted consistently each year in the telecom business sector, market-by-market, particularly in the broadband market.”

7) Pursuant to the “Government and Ruling Coalition Agreement on Direction of Communications and Broadcasting” (June 20, 2006), the Program states that “a review pertinent to assessing the competitive state of the market will be conducted annually.”

In the Competition Review, the MIC carried out the review and analysis of four fields (fixed phone, Internet access, mobile communications and intra-company networks service) from fiscal year 2003 to fiscal year 2005 and “migration analysis”⁸⁾ and “mutual relations between neighboring markets”⁹⁾ in fiscal year 2005.¹⁰⁾ Based on the results during the past three years, the MIC established the “Guidelines for the Competition Review in the Telecommunications Business Field 2006-2008” (hereinafter referred to as the “Competition Review Guidelines”)¹¹⁾ to carry out Fixed Monitoring Review of the above-mentioned four fields and Strategic Review that focuses on specific topics. In November 2006, the MIC established the “Details of Implementations for Competition Review” (hereinafter referred to as “Details of Implementations”). With regard to the implementation of the Competition Reviews, each fiscal year details and major items of the implementation are decided upon, in order to obtain an overview of the content of the assessments and reviews. In Details of Implementations, services (and territories) to be assessed and reviewed, market data to be collected, and other aspects are concretely determined. In the Fixed Monitoring Review of fiscal year 2006, focuses were placed on greatly changing fields of Internet access and intra-company networks service. In addition, the theme of the Strategic Review was determined after hearing of opinions (See *Figure 1*). The major telecommunications

Figure 1 List of objects of Competition Review



Source: MIC (translated by the author)

- 8) Migration analysis means analysis of shift from ADSL to FTTH. With the development of migration, NTT East and West's share in the Internet access field has been rapidly growing.
- 9) The MIC analyzed the correlation among service choices by users in the fields and markets of fixed phone, mobile communications and Internet access. As a result, it was found that consumers tend to choose the same provider's services in each market.
- 10) See the MIC, “Review of the Status of Competition in the Telecommunications Business Field” from fiscal year 2003 to fiscal year 2005.
- 11) The Competition Review Guidelines represent the overall view of the competition reviews, such as their backdrop, purpose, basic stance, and policies for analysis and review. Each year the Competition Reviews are conducted based on these Competition Review Guidelines.

markets will be assessed on a continuous basis in a manner of Fixed Monitoring Review (Fixed-Point Review). And Strategic Reviews that appoint particular subjects will be performed at the same time. In April 2007, the MIC established the “Market Definition in the Telecommunications Business Field 2006” (hereinafter referred to as the “Market Definition 2006”) to determine the object of review (markets) in fiscal year 2006 and revise the market definition in the fields of Internet access and intra-company networks. In July that year, the results of the review were compiled.

2. Objectives of the Competition Review

Competition Review is a system that contributes to the establishment of policies through ex-ante and ex-post market analyses and a judgment on the existence of a company that has “market power”¹²⁾. With the background of the Competition Review described above, MIC undertakes the Competition Review to achieve the following policy objectives. This section briefly sketches three main objectives according the Competition Review Guidelines¹³⁾.

The first objective is to grasp changes in the status of market competition accurately as the market shifts to IP, broadband communications and ubiquitous networks. In recent years, a shift to IP, broadband communications and ubiquitous networks has been prevailed in the telecommunications market. The emergence of mobile phones and Internet has drastically changed the market environment for fixed telephony, and users have become less conscious of the distinction among voice, data and video and between wireless and wireline communications. Services and their supply structure, interrelations among telecommunications carriers and other factors are undergoing major changes. However, the degree of progress in competition among telecommunications carriers spurred by these changes is not necessarily the same, varying from one service to another and from one region to another. For this reason, it is necessary to grasp changes in the status of competition accurately and without delay by defining places where services are traded as markets and analyzing the status of competition in each market on a continuous basis. In implementing the Competition Review, *objectivity* and *neutrality* become critical points. The methodology used and results obtained from the Review is required for specialization in the field of not only the telecommunications business, but also those related to law and economics.

The second objective is to share the mutual understandings on the status of competition

12) “Market power” means the power “for a certain business or business group to control price, quality, quantity and other terms freely at its own discretion as a result of reduction in competition itself.” Tokyo High Court Kosai-minshu Vol.6, No. 13 of Dec. 7, 1953, p. 868.

13) For a detail, see the Competition Review Guidelines 1-2. This section of the article is described based on the Competition Review Guidelines 1-2.

to increase the transparency and predictability of policy-making. It is necessary to allow persons concerned with industry, academia and government to share the same recognition on the status of competition by forming a broad consensus on data, methods and other matters used for analysis, periodically analyzing the status of competition based on them and making the results of analysis available to the public. Policy-making and any regulations are not included in the agenda of the Competition Review, but it is expected that the persons concerned will share information obtained from the Competition Review and have opportunities for discussions and arguments based on such information, thus promoting the comparison of various policy options and the formation of consensus on policy and increasing the transparency and predictability of policy-making. In order to cope with these aspects of Competition Review, the “Competition Review Advisory Board” is newly organized¹⁴⁾. It acquires knowledge and forms opinions about the importance aspects of the competition reviews MIC conducts, from a neutral and specialized perspective.

The third objective is to make Japan’s policy in line with international harmonization. Initiatives for Competition Review in the telecommunications business field based on certain standards and methods and efforts to reflect the results of analysis on policy-making are under way in various countries, including EU nations. Since the telecommunications market is a fast-changing, global market, it is necessary to promote mutual understanding and international cooperation with various countries and exchange information with them concerning methods for and the results of the Competition Review, thereby ensuring internationally consistent assessment. The Competition Review is not directly connected with regulatory and other policies because the purpose of the Competition Review is to analyze the structures of the existing markets and the status of competition in the markets objectively from a panoramic view and use the resultant data for the establishment of policies. However, because the connection of the Competition Review with the review of such regulations as the Designated Telecommunications Facilities System¹⁵⁾ is now under consideration,¹⁶⁾ the

14) The Board is expected to be appointed from the ranks of experts in the fields of law, economics, and information and communications. The author is a member of the Board.

15) This system imposes service regulation, act regulation and access-related regulation on providers’ facilities that meet some designated requirements. It is divided into fixed (“Category I designated telecommunications facilities”) and mobile (“Category II designated telecommunications facilities”). For example, with regard to fixed (Category I), in each prefecture, one of the designation requirements is that the market share of subscriber line is more than 50%. NTT East and West have been designated. See Article 33 and thereafter of the Telecommunications Business Law.

16) For the relation between the review of the Designated Telecommunications Facilities System and the Competition Review, see the MIC, “Consideration Agenda Concerning the Review of the Designated Telecommunications Facilities System (Dominant Regulation)” (2007). In accordance with the “New Competition Promotion Program 2010,” in April 2007 MIC released the Guideline for

Competition Review may have a similar function to RIA (Regulatory Impact Analysis: ex-ante review of regulations).

The aim of the Competition Review is to make a bird's-eye and objective analysis of the structure of the existing market and the status of competition in the market in order to provide basic data for policy-making. Therefore, unlike the Antimonopoly Law, the Competition Review is not intended to regulate specific anticompetitive acts in individual competition cases or point out whether or not certain firms abuse their market power, nor do the results of the Competition Review lead directly to any regulations and other policy measures. Competition Review is not intended to indicate or regulate the abuse of specific individual anti-competitive practices.¹⁷⁾

The purpose of the Competition Review is to analyze competition situation of existing markets panoramically and objectively in order to make basic materials for policy planning and that the Competition Review aims to provide data concerning the competitive environment in the telecommunications business field, but is not directly connected to regulation. In other words, the Competition Review is intended to judge in a comprehensive manner the status of the market while taking into account the effects of policy: for example, whether the market structure easily allows a certain telecommunications carrier to gain market power, or whether the market environment enables telecommunications carriers to respond competitively to a single dominance or joint dominance.

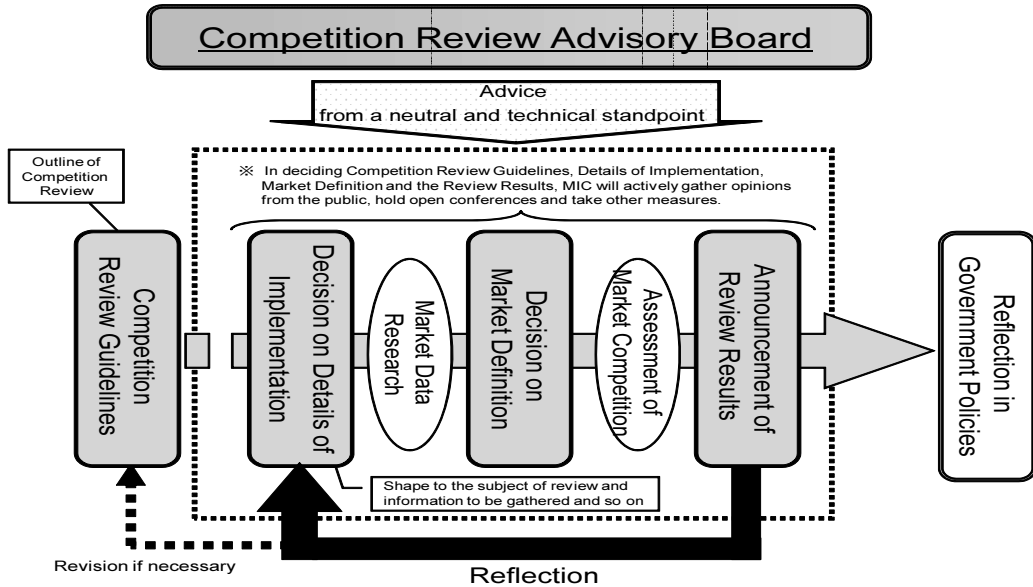
3. Procedure of the Competition Review

The procedure for the Competition Review process as follows (see **Figure 2**): First is the determination of the Competition Review, which is the whole image (midterm plan) of the Competition Review. The Competition Review Guidelines will be positioned as three-year plan with details for implementation revised each year in line with topics taken up each year. The Competition Review Guidelines represent the overall view of the Competition

Application of the Competition Safeguard System, intended to periodically check the validity of the scope of designated telecommunications facilities and comprehensive fair competition requirements concerning the NTT Group. The first review under this Safeguard System was conducted in fiscal year 2007.

- 17) For a detail, see the Competition Review Guidelines 1-3(5). Competition Reviews in relation to competition laws are clarified in § 1.3 of European Commission [2001] “Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services.” Under § 1.3, the designating an undertaking as having SMP (Significant Market Power) has no bearing on whether undertaking has committed an abuse of a dominant position within the meaning of Article 82 of the EC Treaty. It merely implies that, from a structural perspective, the operator has and will have sufficient market power in the relevant market.

Figure 2 Flow of Competition Review



Source: MIC

Reviews, such as their background, purpose, basic stance, and policies for analysis and review. Each year the Competition Reviews are conducted based on the Competition Review Guidelines. In carrying out the “Competition Review”, MIC cast fiscal year 2003-2005 as the phase 1 and made analyses of the status of competition in four areas: “Fixed telephony,” “Internet access,” “Mobile communications” and “Intra-company networks.” Fiscal year 2006-2008 is cast as the phase 2. the Competition Review Guidelines will lay down the basic guidelines for the second phase of Competition Review, based on the results of the first phase of the Review and communications with telecommunications carriers.¹⁸⁾

The next step of the Competition Review is the determination of Details of Implementation, which is the annual plan that concretely specifies methods for collecting and analyzing information. With regard to the items of information to be gathered as set forth in the Details of Implementation for the fiscal year, data is gathered from both the supply side and the demand side, making it possible to obtain a grasp of the current circumstances in the marketplace. In addition, the data used when the analyses and reviews were conducted is made public, guaranteeing transparency and fairness. The third

18) Through its “Study Group on a Framework for Competition Rules to Address the Transition to IP-Based Networks” meetings (February-July, 2006), The MIC solicited from all telecommunications carriers their comments on the direction of competition review in Fiscal Year 2006 and onwards, and exchanged views with comment-submitting carriers. Their inputs informed the formulation of the Competition Review Guidelines.

step of the Competition Review is collection of information from the demand side and the supply side and “market definition” that identifies the market to be assessed. Demand-side data is gathered through questionnaires given to general consumers. Supply-side data is gathered based on questionnaires regarding telecommunications companies and reports produced according to Rules of Reporting on Telecommunications Business (Ministerial Ordinance of MPT No. 46 of 1988). From among the items of information collected from the supply side and demand side as set forth in the Details of Implementation, various data utilized in the analysis is organized and summarized and made available to the public. The final step of the Competition Review is announcement of “review results” of the Review.

III. Market Definition in the Telecommunications Industry

1. Overview

This chapter will consider about roles of market definition, i.e., what meanings market definition has – and the criteria for market definition – how the market is defined. In conducting the analyses and reviews, it is necessary to define in advance the subjects involved and the extent to which they will be conducted. Market definition involves focusing on where users of services and providers of services conduct their transactions (i.e. market) and then defining the extent to which those services are conducted. Market definition is not important only for the regulation of business combination (merger regulation). It is important issue not only for the Antimonopoly Act¹⁹⁾ as a whole but also for the competition review in telecommunications industry as well. Accordingly, this article will also examine how market definition is used in Japan’s competition policy.

The definition of a market is a prerequisite work for the Competition Review, the purpose of which is to determine market power. Market definition is not a purpose, but a means for competition review. Market definition is to define the range and boundary of what can constrain the exercise of market power. Because market share and market concentration is calculated based on the defined market and these statics are regarded one of the indicators for analyzing market power, market power cannot be analyzed without market definition in reality²⁰⁾. In short, the existence of market power depends on whether

19) In this article, the “Antimonopoly Act” means “the Act Concerning the Prohibition of Private Monopoly and Maintenance of Fair Trade (Act No. 54 of 1947)”.

20) Generally, if a market is defined narrowly, companies’ market share becomes higher and the act at issue is more likely to be judged to be restrictive to competition. On the other hand, if a market is defined widely, the companies’ market share becomes lower and the act is less likely to be judged to be restrictive to competition.

companies mutually constrain each other through competition in a market. However, this requires early-stage evaluation of the range to be constrained. Market definition is necessary for forming a framework for judgment at the early stage. The factors that constrain market power (i.e. *competitive constraints*) exist in various forms. In addition to the constraint factors at the stage of market definition (various factors that indicate the substitutability of demand and supply), various forms of competitive constraints should be checked after the stage of market definition, such as competitive pressures from neighboring markets, entry, and import, and so on. If these competitive constraints are listed *without market definition*, an enormous number of check items have to be discussed inconsistently. Therefore, market definition is a tool for *visualizing* and making transparent discussions by putting together such information into the “framework” of market definition.

Under the Antimonopoly Act, the anticompetitive effect is “substantial restraint of competition” in relevant markets.²¹⁾ The “restraint of competition” does not mean the restraint of each rivalry activity between companies²²⁾, but means damage to the competing function of a market as a whole resulting from accumulation of competitive activities in the market. In other words, “substantial restraint of competition” does not mean restraint of each competitive activity itself, but means substantial restraint of mutual *competitive constraints*. Market definition means the determination of a competitive arena for measuring such an anticompetitive effect²³⁾. Telecommunications services have the distinctive features described below as compared to goods and services in general. It is necessary to take these features into consideration when analyzing and assessing the status of competition. Due to economies of scale and scope,²⁴⁾ network effects,²⁵⁾ existence of essential facilities and other service characteristics, external restrictions, including the rarity of resources such as exclusive road use and frequencies, and other factors, it cannot necessarily be said that new market entry is easy, and the

21) Article 15 of the Antimonopoly Act specifies that “No corporation shall effect a merger if any of the following items applies; (i) Where the effect of the merger may be substantially to restrain competition in a particular field of trade”.

22) For the definition of “competition,” see Section 2 (4) of the Antimonopoly Act.

23) European Commission Notice on the definition of relevant market for the purposes of Community competition law (Official Journal C372, 09.12.1977, P5) says that “The main purpose of market definition is to identify in a systematic way the *competitive constraints* that the undertakings involved face” (emphasis added).

24) Economies of scale refer to declining average costs as the volume of production increases. Also known as increasing returns or decreasing costs to scale. Economies of scope refer to lower costs when a number of operations are undertaken simultaneously by a diversified single corporation than when each operation is undertaken by a different corporation.

25) Refers to the situation in which the larger the number of users consuming the same good or service, the higher the utility obtainable from consumption of that good or service.

market easily tends to fall into a status of monopoly or oligopoly²⁶⁾. In telecommunications services, technological innovations advance rapidly and the life cycle of services is short. In the market in which technology changes rapidly, the business environment that surrounds telecommunications carriers undergoes changes in a short period of time, making it likely that the external boundary of the market and the status of competition change quickly. Immediately after innovative and creative services are launched, it is often difficult that competitors appear on the market, resulting in a monopolized market in some cases²⁷⁾.

Market definition is classified into two dimensions: the definition of a product market (product dimension)²⁸⁾, and the definition of a geographic market (geographic dimension). Because the definition of a product market is the premise for the definition of a geographic market, discussions about the former can be applicable to the latter in principle. Therefore, below this article will focus on a product market to explain market definition.

2. Market Definition as a Legal Issue

First, it is necessary to confirm that, for the purpose of this article, market definition is a practice for certain policy purpose. Although, from a perspective of economics, market definition may be to define arena realized under *the law of indifference*, it has a different purpose from the viewpoint of the antimonopoly law. That is, because discussions about market definition covered by this article focus criteria established to judge violations against the antimonopoly law, market definition has path-dependent nature and therefore do not ask whether any product or geographical area is a market or not, *a priori*. Market definition is not armchair discussion but has practical nature. In this sense, market is defined as long as necessary for settlement of legal disputes. When the Japan Fair Trade Commission (hereinafter referred to as JFTC) examines mergers, JFTC reviews cases likely to have anticompetitive effect among many prior consultation cases and notification cases and uses market definition as a function of the “screening” for more detailed examination. If a case is suspected of being highly likely to have adverse effects on competition, JFTC more accurately defines the market to check the adverse effects on competition more strictly.

Market definition as a concept related to the antimonopoly law is arena for judging anticompetitive effect. Market definition to be discussed herein is not an economics issue, although the word “market” is associated with economics. According to Franklin M. Fisher, a famous econometricians participating in many antitrust lawsuits, market

26) See the Competition Review Guidelines 1-5.

27) See Ibid.

28) In this article, product includes services.

definition is an artifact for antitrust lawsuits²⁹⁾. The dichotomous question as to whether or not a certain product or company belongs to a certain market is meaningless for economic analysis. In this sense, market definition exists only for the issues related to competition law.

As described in detail below, market definition exists as a precondition for the Competition Review for identification of market power. Market definition is only a means for the Competition Review, not its purpose. Some lawsuits in the US concerning market definition show the tendency to deviate from the original purpose and make the means the purpose. Attention should be paid to the risk of regarding market delineation as a purpose. Some formulas of market definition such as SSNIP test should not be treated as though it were an infallible rule. Market definition is absolutely a means for analysis of market power and only a precondition for the Competition Review.

The purpose of market definition as a precondition for market power analysis is to identify *competitive constraints*, as shown plainly in EC's market definition notice. In other words, market definition is the definition of an extent of goods or service or a geographic area that can constrain the exercise of market power. Only if a market is defined in this way, market share and concentration statistics have meanings as parameter of market power. The market share and concentration data vary greatly depending on how the market is defined, but the essence of market definition lies not in the aspect of definition in which it is needed to calculate market share, but in the aspect of definition in which it clarifies what the status of competition is questioned for.

If market is "arena" where market power does not arise when competition is destroyed, market share and market concentration statistics is useless for the identification of market power³⁰⁾. However, if market definition is emphasized as a precondition for the identification of market power, and if market power can be measured directly (some methodology for this is under development in economics), market definition process may be bypassed and dispensable³¹⁾. In this sense, although market definition is useful for the identification of market power, it is not absolutely indispensable precondition.

29) Franklin M. Fisher, *Industrial Organization, Economics, and the Law* (1990) 37.

30) The view that market definition is the definition of the boundary of competitive constraints has emerged relatively recently. There was only a naive understanding for a long time that a market must be defined to some extent as a precondition for calculation of market share. However, when the SSNIP test was introduced according to the 1982 US Merger Guidelines, the theory of market definition developed through the understanding that if competition disappears in a tentative market and then the market becomes "arena" where no market power arises, such arena is meaningless for identification of market power. If market share and concentration are indicators of market power, market power cannot be analyzed without market definition.

31) If market power can be measured directly, competition can be assessed without market definition. In this sense, market definition can be omitted. However, such a direct methodology still remains under development.

In short, market definition is to define the scope and boundary of what can constrain the exercise of market power. “Substantial restraint of competition” in the Antimonopoly Act means “to bring about a situation where competition itself is reduced and a certain business or business group can control a market by changing price, quality, quantity and other terms freely at its own discretion.”³²⁾ However, the object of the Antimonopoly Act is what is regulated after the fact if such a dominant position is formed, maintained or strengthened through a specific act. On the other hand, in sector-specific regulation such as the telecommunications, the existence of such a dominant position can trigger ex-ante regulations.

Because market definition is a precondition for the Competition Review, competitive effect analysis is also important after market definition. However, this does not mean that it is sufficient to apply the competitive effect analysis as a whole without market definition or after a rough definition of markets. If the actual competition is “visualized” through market definition, the transparency of discussions will be increased. Market definition provides a common place for discussions between the parties. As symbolized by sequential revisions of the Telecommunications Business Law, there is a trend from ex-ante regulation to ex-post regulation in telecommunications. In this trend, the Competition Review was introduced in the telecommunications field, and the concept of market definition, which had been conceived as an analysis framework for antimonopoly law, was taken over. Market definition for the telecommunications business field will be discussed in the following section.

IV. Market definition for the Competition Review

1. Overview

In the above-described procedure for the Competition Review, the most important process is market definition. Although market definition is a concept arising as a issue related to competition law, when the Competition Review was introduced into the sector-specific field of telecommunications, this concept of market definition for the Antimonopoly law was taken over as a useful concept for accurately grasping market conditions (for the difference between the concept of market definition for the Competition Review and that for the Antimonopoly law, see *Figure 3*).

Because the market definition for the Competition Review clarifies each fiscal year’s object of review, each company’s share in the target market changes according to the

32) Tokyo High Court decision on December 7, 1953; Kosai-Minshu (High Court Decision Reporter) Vol. 6, No. 13, p. 868.

Figure 3 Differences between the market definition for the Competition Review and that for Antimonopoly law

		Concern	Extent of target market	Time line of market definition	Time of review	Method
Market definition for the Competition Review		Market structure and other elements may bring about the creation, maintenance or strengthening of market power.	Panoramic and comprehensive (Whole communications service market)	Ex-ante	Regular (Every year)	SSNIP test as conceptual tool
Market definition for Antimonopoly Law	Related to merger	Whether does the merger substantially may restrain competition	Individual and limited (Only markets related to target cases)	Ex-ante	When a case arises (If needed)	SSNIP test as conceptual tool (Merger Guidelines 2-2)
	Related to private monopolization	Whether does the act substantially restrain competition	Individual and limited (Only markets related to target cases)	Ex-post	When a case arises (If needed)	To be considered from the viewpoint of the object of transaction, the area and the scope of influence of illegal act

Source: MIC (translated by the author)

result of the market definition. Since market shares and HHI³³⁾, which is based on the market shares, are important criteria, the “market definition” plays a central role in the Competition Review, and careful judgment is made as follows³⁴⁾: first, the substitutability of main services are analyzed by a data analysis or economic method, based on information collected from the demand (consumer) side and the supply (service provider) side;

33) HHI means Herfindahl-Hirschman Index. The index ranges from 0 to 10,000. The higher the market concentration, the nearer to 10,000 the index is. According to the JFTC’s “Guidelines to Application of the Antimonopoly Act Concerning Review of Business Combination” (as the existing law, were published on May 31, 2004 and revised on March 28, 2007. hereinafter referred to as *the Japanese Merger Guidelines*), if the company group after merger falls under any of the following, it usually cannot be thought that horizontal merger will substantially restrain competition: (i) The Herfindahl-Hirschman Index (HHI) is 1,500 or less after the merger. (ii) HHI is above 1,500 and up to 2,500 after the merger and the increment of HHI is up to 250. (iii) HHI is above 2,500 after the merger and the increment of HHI is up to 150. HHI is calculated by totaling the square of each company’s market share. For example, if ten companies that each hold a market share of 10% exist in a market, HHI is 1,000 ($10^2 \times 10$). If there is only one company that holds a market share of 100%, HHI is 10,000, the maximum value of HHI. As described in *the Japanese Merger Guidelines*, even if the company group does not fall under any of the above thresholds, the merger is not immediately regarded as substantial restraint of competition. Although judgment depends on case by case basis, according to *the Japanese Merger Guidelines*, in light of past cases, if HHI is not more than 2,500 after the merger, and the combined company group holds a market share of not more than 35%, the possibility of substantially restraining competition is usually thought to be small.

34) See the Competition Review Guidelines Chap. 3. For a detail discussion, see Shuya Hayashi, “The Economic and Legal Theory of Market Delineation in Competition Law” *Minsho-Ho Zassi* (The Journal of Japanese Civil and Business Law), Vol.126-1,2, 2002, Chap. 3 (original in Japanese).

second, based on the result of the analysis, the frame of the same service is determined (definition of service market) and a geographical frame is determined by paying attention to the service supply side (definition of geographical market).

If there are services regarded as independent to some extent in the defined market, each of them is partially defined (definition of submarket). In market definition, economic analysis will be crucially important to sophisticate actual case review. But economic analysis in the Competition Review is almost always used only as a way of thinking or a guiding principle mainly because of data constraints. In defining a service market, Competition Review uses the “SSNIP test³⁵⁾” as a means of considering the substitutability of demand among services. However the SSNIP test of market definition is used only as a conceptual tool. In actual cases, there are very few examples of quantitative analysis being conducted on the basis of proven data. As substitutes, many competition authorities consider users’ response to price increase by the hypothetical monopoly by weighing up questionnaire surveys for users, internal documents supplied by parties, interviews with competitors, data obtained from surveys of trade associations and other materials in a comprehensive manner. But analyses have not necessarily been made using actual data, and the SSNIP test in real world cases is conducted in qualitative way. Data on the price elasticity of demand and price-cost margins are generally needed to conduct SSNIP tests, and there is a limit to the collection of such data, a major reason for the small number of examples in which SSNIP tests are conducted. Then SSNIP tests plays as a conceptual tool for considering the substitutability of demand among products or services. Recently, there is a quantitative analysis method for estimating the price elasticity of demand in quantitative terms using the results of questionnaire surveys. Since the price elasticity of demand helps grasp relative proximity among services, it is possible in some cases that the results of estimation using quantitative analysis will be used as complementary data if such estimation is feasible.

Even if the substitutability of a product or service is poor from the viewpoint of consumers, suppliers may be able to soon supply the product or service. In this case, if the price of the product or service is raised beyond the competitive level, but the rival supplier can immediately supply the product or service, market share cannot appropriately become

35) The origin of SSNIP test is the US Merger Guidelines. See 1992 Horizontal Merger Guidelines section 1.11 (“Absent price discrimination, the Agency will delineate the product market to be a product or group of products such that a hypothetical profit-maximizing firm that was the only present and future seller of those products (“monopolist”) likely would impose at least a “small but significant and nontransitory” increase in price. That is, assuming that buyers likely would respond to an increase in price for a tentatively identified product group only by shifting to other products, what would happen? If the alternatives were, in the aggregate, sufficiently attractive at their existing terms of sale, an attempt to raise prices would result in a reduction of sales large enough that the price increase would not prove profitable, and the tentatively identified product group would prove to be too narrow”).

the indicator of market power unless the substitutability of suppliers is taken into consideration³⁶⁾. It is thought that, if the substitutability of supply has an immediate effect, it, like the substitutability of demand, should also be considered a relevant factor for market definition. For example, although in terms of demand there is poor substitutability between photocopying papers and high-quality papers used for art catalogs, they are substitutable in terms of supply³⁷⁾. The Competition Review, however, regards the substitutability of supply as an issue of the ability to replace supply and the willingness to do so and take it into consideration chiefly when analyzing the status of competition. Market definition focuses on analysis of the substitutability of demand, and attention is not paid to the substitutability of supply except for particularly remarkable cases.³⁸⁾

SSNIP is “small but significant and nontransitory increase in price,” which is used for checking the exercise of the market power to continue to raise price by 5% to 10% for one year. Because a method for directly applying the SSNIP test and measuring the demand substitutability has been developed, the SSNIP test is often regarded as a demand

36) *The Japanese Merger Guidelines* Part II, 1 (“Regarding substitutability for suppliers, the JFTC will consider the degree to which other suppliers can switch, within a relatively short period of time (mostly within a year), without substantial cost or risk, from the manufacture and sale of another product or region to those of the product, if a small but significant and non-transitory increase in price is implemented for the product and region. If the degree is small, and so the monopolist is able to expand its profit as a result of the price increase, the scope would be such that the effect of the business combination may have some impact on competition”).

37) In this sense, the paper industry as a whole can be viewed as a relevant market. On the other hand, each type of paper has its characteristics. For example, cast-coated paper has different manufacturing facilities from other types of paper, and price differences are significant. Art paper and coated paper have their respective functions and uses separated by users because of differences in terms of quality and applications. Additionally, there are substantial price differences, and the interchangeability among varieties of paper is deemed to be limited on the supply side. Therefore, cast-coated paper, art paper, and coated paper were also determined to be individual “particular fields of trade” by the JFTC. See, the JFTC prior consultation case from fiscal year 1993.

38) The Competition Review Guidelines states as follows; “If a service provided by one telecommunications carrier can be offered by its competitors without major modifications to production equipment, the supply of such a service is considered replaceable. In order to regard such competitors as having the potential to supply the service and consider the market to be the same if they are capable of supplying it without major modifications to production equipment and other facilities, whether the provision by the competitors of the service actually leads to increased supply volumes must be analyzed taking into consideration the occurrence of various costs when a new service is provided and other factors. Determining the market as being the same only because competitors have physical abilities may result in defining the market as excessively large. Calculating sunk costs such as the possibility of equipment being used for other purposes and costs for replacement of existing supply equipment and profits lost due to such replacement for the purpose of market definition is not realistic because it entails huge volumes of work.” See the Competition Review Guidelines 3-3-2.

substitutability test. However, because the same can be said concerning supply, if the price rises, there is basically only a choice between consumers' buying other goods or other suppliers' supply of the goods. In other words, goods in other areas will be appropriated to the area, or consumers will be purchase other goods. In this regard, "competitive constraints" work from both supply and demand. However, demand substitutability is easier to understand intuitively. Because supply substitutability is related to a topic connected with entry and a question of degree, here arises the problem of time span. With regard to this, differentiation is made from entry in terms of immediacy – that is, whether or not competitive constraints on market power work immediately within one year at least at the stage of market definition³⁹⁾. In terms of identification of competitive constraints, supply substitutability cannot be excluded from market definition criteria.

Basically, if the price of a product rises, competition is a choice between customers' purchase of other products and other suppliers' supply of the product. In short, competitive constraints work from the both sides of supply (suppliers in other areas immediately supply the product) and demand (customers purchase other products). Economically, it can be intuitively understood that the substitutability of demand brings about the most direct and effective constraint on the suppliers' determination of price. If customers can easily switch to an available substitute or a supplier in a neighboring area, a significant impact cannot be given to the existing sales conditions.

Moreover, the Competition Review defines "cluster market" in some cases. A number of services are sometimes included in the same market because they are sold in a set though any one of them cannot be replaced with another. This type of market is called the "cluster market⁴⁰⁾." Combining a number of services when marketing them helps save

39) The substitutability of supply is taken into consideration for market definition only if the product or service can be supplied immediately - that is, if suppliers can switch the production and sale from a product to another product within a short period without assuming a sunk cost or a large risk. According to the Japanese Merger Guidelines when the price of Product A rises, if the supplier of Product B over a wide territory can switch its production equipment and sales networks from Product B to Product A within a short period without assuming a large amount of additional cost or a large risk, the product range may be defined by Product A and Product B. *The Japanese Merger Guidelines* says as follows; "when defining the product range, besides the substitutability for users, if necessary, it would also be considered whether suppliers are able to switch the manufacturing and marketing of one product to another without substantial amount of additional costs and risks within a short period of time." *The Japanese Merger Guidelines* Part2.2.

40) Market definition may be established from transactional complementarities. A number of goods or services are sometimes included in the same market because they are sold in a set though any one of them cannot be replaced with another. This type of market is sometimes called the "cluster market." Combining a number of services when marketing them helps save transaction costs required for supplying them. See e.g., Ian Ayres, *Rationalizing Antitrust Cluster Markets*, 95 *Yale L. J.* 109, 111 (1985). For example, so called large-scale retail stores composed of department stores

costs required for supplying them. Cluster markets raise a question when transaction costs for users can be saved. The concept of cluster markets may result in defining markets as larger than those where telecommunications carriers actually compete with one another and excessively equalizing services and areas that differ from one another in the status of competition. Therefore, this concept should be used strictly as a complementary tool when necessary.⁴¹⁾

2. Cross Elasticity of Demand in Market Definition

When the substitutability of demand is discussed, the concept of “cross elasticity of

and mass-merchandising stores generally solicit customers from larger areas due to the wider variety of commodities in the large-scale stores, and they provide services on one-stop shopping basis which can be characteristically distinct from general retail stores such as small and medium sized stores. In large-scale stores, most customers can fulfill their shopping needs within one store. Moreover, among large-scale stores, department stores and mass-merchandising stores each have different individual characteristics to a considerable degree, and consumers have different shopping motivations in selecting between the various types of stores. Department stores solicit customers by extending the scope the consumers' selection of goods, through the adoption of a face to face sales method and through the carrying of a wide variety of branded goods, many of which are top quality; mass-merchandising stores, on the other hand, solicit customers through the appeal of low prices without a wide variety of branded goods; through the adoption of self-service methods and by carrying principally convenience goods. Due to the nature of their operations especially with respect to department stores and mass-merchandising stores, marked competition generally exists among retailers belonging to the same type of retailing, although retailers belonging to all three different types of retailing compete with one another. See, the abolished Guidelines for Administrative Procedure Standards for Examining Mergers and Transfers of Business in the Retailing Sector (July 24, 1981, the Executive Bureau of the JFTC).

- 41) The Competition Review Guidelines 3-3-2. Moreover, the Competition Review defines markets based on common pricing in geographic dimension. In defining geographic markets, there are cases in which restrictions on the setting of common prices have to be considered in addition to the substitutability of demand and supply, cluster markets and other factors. Restrictions on common pricing refer to the following situation: since telecommunications services are geographically restricted to a great extent, there may be a difference between the number of telecommunications carriers available to users in a given area and that for those in its adjacent area, and users receive services from two or more different telecommunications carriers. Under these circumstances, if there are some restrictions that force a telecommunications carrier providing services in both areas to determine service terms and conditions (such as pricing) based on the status of competition in either of the two markets and provide services in the other market under the same conditions, services are considered to be traded in the same geographic market. Applying the concept of restrictions on the setting of common prices easily may result in defining markets as larger than those where telecommunications carriers actually compete with one another and excessively equalizing services and regions that differ from one another in the status of competition. Conceptually, market definition should be based on the substitutability of demand and that of supply, and the concept of restrictions on the setting of common prices should be used strictly as a complementary tool. The Competition Review Guidelines 3-4-2.

demand” becomes a problem. In economics, the concept of cross elasticity of demand is used to indicate substitutability from the demand side. This is the value that indicates a percentage change in the demand for Product B if the price of Product A changes by 1%. If this value is large, Product A imposes a strong competitive constraint on Product B. Because of this, it is improper to think that only Product B constitutes the market, and it is necessary to add Product A to Product B. In this way, this concept is useful for showing the substitutability of demand in terms of economics. However, attention should be paid to the way of using the cross elasticity of demand in relation to the problem called the “*cellophane fallacy*”.

When a judgment is made on substitutability, a problem arises as to whether the current price should be used as the base price. If the company concerned is fully exercising its market power, because it has raised the current price to the maximum level, an additional price raise will be restrained as a result of the “competition” caused by the additional price raise. However, this “competition” is “*competition*” created by the exercise of market power, not “*competition*” that competitively constrains the exercise of market power⁴²⁾. When a monopolistic company that is planning to maximize its profits has raised the price to the level just before it loses business due to the substitutability of demand, if the current price is used as the basis for judging the substitutability of demand, the relevant market is expanded improperly, because the cross elasticity of demand becomes high. This is the *cellophane fallacy*. The point of this problem is that it is impossible to judge from the cross elasticity itself whether the high cross elasticity of demand is a result of the monopolistic company’s exercise of its market power or a result of active competition.

3. Implication and Limit of SSNIP Test

(1) Policy Agreement of SSNIP

It was established to define a certain market and judge whether any adverse effect to competition exists in the market, as a precondition for the analysis of market power. The criterion for this type of market definition is whether market power may arise if competition is destroyed as described above. However, the degree of market power varies. The degree of market power consists of ability to raise price and the degree of the time span. The ability to raise price is the ability to do small but significant price raising (about 5% to 10%) to maximize profit. The time span is the ability to earn profits by continuing a substantial 5% to 10% price raise above competitive level for about one year. Under the

42) See Donald Hay and John Vickers, *The Economics of Market Dominance*, 124(1987). See also Note, *The Cellophane Fallacy and the Justice Department’s Guidelines for Horizontal Mergers*, 94 *Yale L. J.* 670(1985); Robert Pitofsky, *New Definitions of Relevant Market and the Assault on Antitrust*, 90 *Colum. L. Rev.* 1805, 1846(1990).

SSNIP test, such market power is regarded as problematic. If the competition is destroyed within any product or geographic area and significant market power arises, it is the “relevant market.”

In addition to the above-mentioned problem of “cellophane fallacy,” SSNIP has the other problem. Although the purpose of SSNIP is to find out adverse effects of a relatively small price rise (about 5% to 10%), some argue that SSNIP may not be able to find out cases where profits are obtained only through the exercise of a significant market power. In the US, if a market is defined by the use of SSNIP, the market is regarded as an antitrust market. This is because the US antitrust law is the necessary and sufficient condition for judging illegality. This is a market definition method designed for a certain policy purpose that the antitrust law should intervene as long as any adverse effect exist, based on the idea that, if a price rise has exceeded the competition level of 5% or 10% for one year, this should be regarded as a negative effect in which the law should intervene. Therefore, SSNIP was established based on the idea that the purpose of the antitrust law is to define a market within such an extent and intervene in the formation, maintenance and strengthening of market power within that extent.

However, it is unreasonable to ignore any larger adverse effect of the exercise of a not small market power. From a wider point of view, there are cases where attention should be paid to the constraint of a larger market power. In such a case, the minimum antitrust market defined by the use of SSNIP may be too narrow. That is to say, SSNIP has reflected the policy judgments that the law should intervene as long as any adverse effect exists, based on the idea that, if a price rise has exceeded the competition level of 5% or 10% for one year, this should be regarded as a adverse effect in which the law should intervene. Therefore, it has reflected the policy commitment that it is sufficient to define a market to such an extent and the purpose of the antimonopoly law is to prevent the creation, maintenance and strengthening of such market power. However, because this will cause inconvenient cases as a matter of course, attention should be paid to cases where profits can be obtained only through a more significant price rise. The problem is that such cases may not be found by SSNIP. When a policy is designed, if attention should be paid to the constraint of more serious market power by macro observation, a market defined as smallest antitrust market may be too narrow. Although it may be possible to give such consideration as competitive effect analysis after the stage of market definition, competitive constraints are visualized within the frame of market. Because value exists there, if it is possible, it is important to give consideration at the stage of market definition as much as possible.

(2) How to put together Bundled Products into a Market

Some telecommunications companies collectively provide content services, such as Internet access, fixed telephony, IP phone, broadcasting service and online games. Is it

possible to identify a proper charge for each service? Is it possible to conduct SSNIP on each service? Is it appropriate to do so? It is sure that each service has independent nature. However, even if services can be divided, can the substitutability comparison of each service and another company's similar service appropriately reflect the actual status of competition among the telecommunications companies that "collectively" provide services?

A similar problem arises when there is a complementary (not substitutable) relation between services. For example, if the users of Company X's ADSL service can use IP phone by paying 300 yen in addition to the monthly charge of 2,500 yen for the Internet access service, because the Internet access charge is the "basic fee" for the IP phone service, there are users who pay both the monthly charge of 2,500 yen and the additional charge of 300 yen, but only use IP phone. In this way, although the IP phone service and the Internet access service each are independent (not substitutive), the use of the Internet access service is essential for the use of the IP phone service. In this case, how to identify and divide the services? The concept of cluster market as noted above is one of the solutions to divide and put together commodities. A number of bundled services are sometimes included in the same market because they are sold in a set though any one of them cannot be replaced with another. Combining a number of bundled services when marketing them helps save costs required for supplying them. Cluster markets can apply when transaction costs for users can be saved⁴³⁾. The concept of cluster markets may result in defining markets as larger than those where telecommunications carriers actually compete with one another and excessively equalizing services and areas that differ from one another in the status of competition. Therefore, in the Competition Review Guidelines, this concept should be used strictly as a complementary tool when necessary⁴⁴⁾.

The problem of division of services becomes clear if comparison is made between the following: the OFCOM⁴⁵⁾ (Office of Communication) has defined the "wholesale market for mobile phone calls" because "calls" satisfy SSNIP. On the other hand, and the "Competition Review" of the MIC has defined the "trading market at the stage of subscription contract of mobile phone" because the MIC does not recognize calls as an independent service in spite of adopting SSNIP as a criterion for market definition and regards calls

43) See Office of Communications [2004] "Review of the retail leased lines, symmetric broadband origination and wholesale trunk segments markets," Annex A: Market Definition states that, if consumers purchase services as a bundle, in addition to demand substitutability and supply substitutability, cluster markets will be factored into the consideration of the boundaries of service markets and geographic markets.

44) Competition Review Guidelines 3-3-5.

45) OFCOM is the independent regulator and competition authority for the UK communications industries, with responsibilities across television, radio, telecommunications and wireless communications services.

as a service incidental to the trading at the time of subscription contract⁴⁶⁾. This problem of divisions of goods and services depends on policy judgment as to in what market attention should be paid to the effects on competition.

V. Market Definition 2006 in the Competition Review

1. Overview

In this section, the article will explain the present situation of “market definition” for the Competition Review, taking, as an example, the Internet access, which was greatly revised in fiscal year 2006. In the “Market Definition 2006,” the MIC fully revised the market definition in the Internet access because, with the development of the IP and broadband services and “fusion or integration of telecommunications and broadcasting,” the number of broadband contracts - especially, the number of FTTH contracts – rapidly increased, the shift from ADSL to FTTH became full-scale, and the market environment in the Internet access field greatly changed. The MIC defied the service market in the Internet access field as below, taking into consideration the differences in the tendency of the users of each service concerning the results of examinations based on the following: (1) functions that users demand; (2) users’ reasons for choosing each service; (3) comparison among services; (4) services that users prefer for instead of the existing services; and (5) estimated price elasticity (see *Figure 4*).

Figure 4 Consideration of issues concerning definition of service markets

Consideration of substitutability among DU, ISDN, ADSL, CATV and FTTH	Demand substitutability					Supply substitutability	Conclusion
	(1) Requested function of each service	(2) Reason for choice of each service	(3) Comparison among services	(4) Service preferred for instead of existing one	(5) Estimated price elasticity		
(Issue 1) Can DU and ISDN constitute a narrowband market?	△	△	○	○	—	○	Same market
(Issue 2) Can ADSL, CATV and FTTH constitute a broadband market?	△	△	○	○	△	△	Same market
(Issue 3) Can narrowband and broadband be combined into a market?	△	×	△	×	—	△	Different market

Source: MIC (translated by the author)

46) For details, see the MIC, “Competition Review in the Telecommunications Business Field in FY2004,” Chapter IV, 4-1-3.

Although there are a few differences between Dial Up (DU) and ISDN in terms of demanded functions and reasons for choice, neither has decisive independence. With regard to supply substitutability, because both use metal lines, it is easy to enter into each other's market and both are highly substitutable. Therefore, the MIC defined DU and ISDN as the narrowband market. (2) Judging from the basic functions demanded by users, the reasons for choice, comparison among services, the services preferred for instead of the existing ones and price elasticity, the substitutability among ADSL, CATV and FTTH has been rapidly increasing⁴⁷⁾. Therefore, the MIC defined ADSL, CATV and FTTH as the broadband market. (3) Although there is no great difference between narrowband and broadband in terms of the basic functions demanded by users and comparison among services, there are clear differences in the situation of choice of high-level functions, such as 0 ABJ-IP phone (optical phone) and video distribution, the reasons for choice and the services preferred for instead of the existing services⁴⁸⁾. Therefore, the MIC defined each as an independent market. In the past, when markets were defined for the Competition Review, each of the services from DU to FTTH was analyzed as an independent market. In the "Market Definition 2006" based on the above analysis, DU and ISDN were defined as the narrowband market, while ADSL, CATV and FTTH⁴⁹⁾ were defined as the broadband market. At the same time, the MIC defined each of the services from DU to FTTH as a sub-market to assess and analyze the Internet access field both broadly and narrowly⁵⁰⁾.

2. Result of Review in Fiscal Year 2006

The MIC carried out the analysis based on the above-mentioned market definition and published the result in July 2007. Main indicators and review results were as follows (note that judgment was made based on not only the indicators mentioned here but also other indicators, such as changes in charges). See **Figure 5**. With regard to the current market conditions (as of the end of December 2006), the number of broadband subscribers was 25.74 million (7.94 million FTTH subscribers, 14.24 million ADSL subscribers and 3.57 million CATV subscribers), showing a slight increase. As for submarkets, while the number of ADSL subscribers was

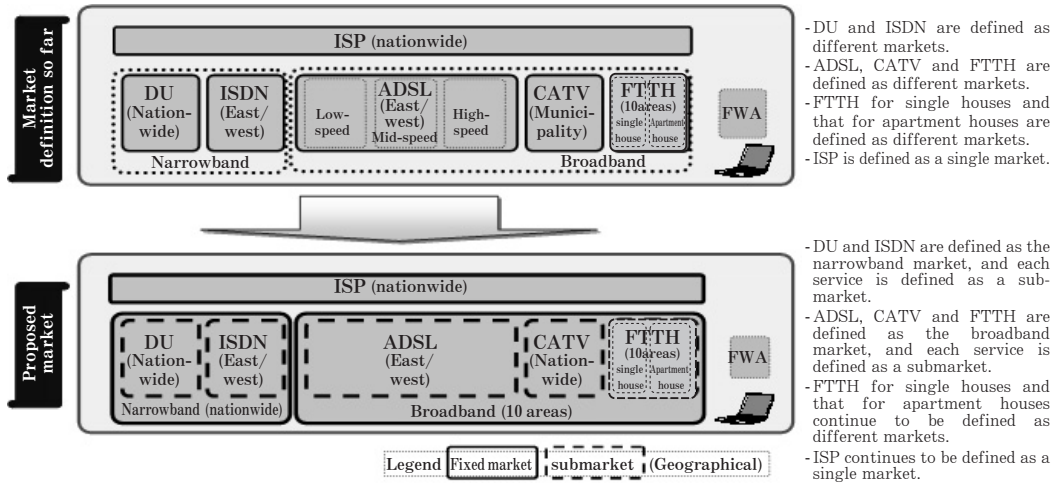
47) Substitutability is low in terms of facilities competition because supply structure differs: ADSL uses metal lines, CATV coaxial cables and FTTH optical fiber lines.

48) Because narrowband is greatly different from broadband in supply structure, substitutability is low in terms of facilities competition.

49) With regard to the FTTH market, submarkets for single houses and for apartment houses were defined. The Internet access service (ISP) is omitted in this article.

50) Geographic markets are omitted in this report due to space limitations. Market definition was made for the whole of Japan concerning the narrowband market, while market definition is made for each regional block concerning the broadband market.

Figure 5 Definition of service markets in the Internet access field



Source: MIC (translated by the author)

on a downward trend, while the number of FTTH subscribers was rapidly increasing. With regard to each provider's market share, NTT East/West's share was the largest 42.1%. Of the top four companies, only NTT East/West showed an upward trend. The top three companies occupied 70% of the market, indicating a trend toward oligopoly. HHI was 2,246.

A change in the broadband market share indicates the shift from ADSL to FTTH and stable development of migration (shift to FTTH). NTT East/West's share in the whole broadband market is on an upward trend against the background of the status of competition of FTTH, the number of subscribers to which is increasing. The following are results of analysis on the existence of market power⁵¹⁾ based on the above data. (1) The top-ranking NTT East/West's share was the largest 42.1%, showing an upward trend, while the second-ranking SoftBank Group's share was 20.4%, showing a downward trend. This shows that the difference in market share is widening. (2) NTT East/West's share of subscriber lines was 93.8%. NTT East/West possesses essential facilities. Unless other providers use the facilities, services cannot be provided. (3) Rival providers cannot provide services without the use of NTT East/West's Category-I designated telecommunications facilities (metal lines and optical fiber lines). Therefore, NTT East/West can exercise its influence on the rival providers through the procedure for the use of the facilities. (4) The migration to FTTH shows the lock-in effect on NTT East/West users (users of NTT East/West's Internet access service tend to use NTT East/West's service when migrating to FTTH).

51) Market power is analyzed in the case of NTT East/West's "single" domination and in the case of "joint" dominance. This article only explains the former.

Figure 6 Outline of review result in fiscal year 2006

Market/sub-market	Current market condition (as of end of Dec. 2006)						Review result in FY2006			
	Number of contracts		Market concentration (HHI)		NTT East/West's share		Existence of market power	Exercise of market power	Remarks	
Broadband		25,740,000	+2.8%	2246	+55	42.1%	+4.2%	○	△	Possibility of leverage of market power
	FTTH	7,940,000	+71.0%	3049	+777	67.5%	+6.8	○	△	Possibility of leverage of market power
	ADSL	14,240,000	-1.7%	5093	+67	38.5%	-0.6%	○	×	
	CATV	3,570,000	+10.2%	1060	+282	-	-	×	-	

Source: MIC (translated by the author)

These results show that NTT East/West holds a position in which it can have effect on price and other terms by itself (“existence of market power”).

NTT East/West seems unlikely to exercise its “market power” solely because of the following reasons: (1) under the designated telecommunications facilities system, a dominant regulation, Category-I designated telecommunications facilities, main facilities for fixed phone, have become available to the rival providers, with the result that NTT East/West’s exercise of its “market power” has been constrained the regulation (that is, NTT East/West’s raising of service charges is constrained); and (2) NTT East/West and the rival providers are actively competing with each other in terms of price and service to acquire customers.

VI. Future Agenda in the Competition Review

The MIC drew up the “Process Program Concerning Reforms in Communications and Broadcasting” (September 1, 2006), responding to the “Agreement between the Government and the Ruling Parties on Regulatory Frameworks for Communications and Broadcasting” (June 20, 2006). The Process Program states that the review of market competition should be conducted every year as a part of the establishment of competition rules for enduring fair competition. The same statement is included in the “Priority Plan 2006” (established by the IT Strategy Headquarters of the government).

This is because the development of “fusion” between markets, such as between the communications and broadcasting markets and between fixed and mobile communications markets, has reduced the flexibility of the competition rules based on the traditional market classification and it has become necessary to establish fair competition rules that keep up with vertical market integration of platforms and others⁵². In this way,

the government has imposed more importance on the Competition Review. As a result, when the government comprehensively reexamines the designated telecommunications facilities system (dominant regulation)⁵³⁾, how to coordinate the system with the Competition Review has become an issue. For example, in order to reexamine the system comprehensively based on the framework of EU's designation of SMP (Significant Market Power) by 2010, the MIC established the "task force on what new competition rules should be" in December 2006 to examine what new competition rules should be to keep up with changes in market structure. An important issue for the task force is how to coordinate "market definition" and "market power" in the Competition Review with the application of regulations related to the Designated Telecommunications System. In addition, in the Competition Review in fiscal year 2006, analyses base on the "fusion" of services have become important, including the "migration analysis" carried out as "fixed-point monitoring review" and the analysis on "mutual relationships between neighboring markets" carried out as "strategic review." In this way, how "market definition" and "market power" should be in the "fusion" era seems to influence review and analysis procedures in the future. In Europe, the framework has been reexamined according to the "Recommendation on Relevant Markets"⁵⁴⁾ and its progress is drawing attention⁵⁵⁾. Based on trends in foreign countries like this, the role of the Competition Review should be heightened in the future, for example, by examining its position under law, so that the Competition Review will become a foundation for a wide range of policies.

VII. Conclusion

Because the government has placed more importance on the Competition Review, the Competition Review will play an important role in coordinating with the "Competition

52) See Shuya Hayashi, "Competition Policy and Public Policy for Platform Rules on ICT Network," *Telecom Journal* (Telecommunications Promotion Association, original in Japanese), Vol. 25, No. 6, p. 26 (2007).

53) See the MIC, "What Competition Rules Should Be to Keep Up with the Development of IP – New Competition Promotion Program 2010" (2006).

54) See EC "Commission Recommendation of 11 February 2003 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services" (2003.5.8).

55) See EU "Commission Staff Working Document Public Consultation on a draft Commission Recommendation On Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services (Second edition)" (2006.6.28).

Safeguards”⁵⁶⁾ and comprehensively reexamining the Designated Telecommunications Facilities system⁵⁷⁾. The market definition for the Competition Review in particular is sure to play a more important role in judging market power in the designated telecommunications facilities system on the next-generation networks (NGNs). For this purpose also, it is essential to discuss the meaning and importance of market definition.

Market definition is a “arena for judging adverse effects on competition (anticompetitive effects)” and has the function to visually show in what market anticompetitive effects have arisen. It is difficult to assess a huge amount of market power related factors in the Competition Review Guidelines systematically without carrying out market definition. Market definition is used for *visualizing* the status of competition to identify competitive constraints. Based on information collected through this process, and taking into consideration out-of-market factors, the existence of market power and the degree of the exercise of the power are judged in competitive effect analysis. In this way, “market definition” and “competitive effect analysis” are both sides of a coin. In short, the Competition Review consists of two stages: the first stage is the identification of *competitive constraints* in the process of market definition; and the second stage is more detailed examination in the stage of competitive effect analysis. Other advanced countries have traditionally focused on market definition because market definition is a practical and reliable method for competition review.

56) The Competition Review Guidelines states as follows; “The “New Competition Promotion Program 2010,” a report submitted by MIC’s “Study Group on a Framework for Competition Rules to Address the Transition to IP-Based Networks,” states that a new “Competition Safeguard System” should be established in FY2007 and thereafter. The “Competition Safeguard System” aims at improving the existing Designated Telecommunications Facilities System in a comprehensive and systematic way. Programs implemented under this system include annual periodic review of the range of designated telecommunications facilities and verification of the effectiveness of successive fair competition requirements related to the NTT Group. In carrying out this periodic review, it is expected that basic data on market definition and the results of assessment provided by the Competition Review project will be utilized effectively. Therefore, in performing Competition Review for the second phase (FY2006 to 2008), it is important that MIC will strive to ensure organic cooperation with the Competition Safeguard System and continue to ensure highly objective and transparent Competition Review with the aim of bringing satisfactory results each year.”

57) Competition Review Guidelines states as follows; “The “New Competition Promotion Program 2010” further states that MIC should conduct a comprehensive review of the first- and second-class Designated Telecommunications Facilities System by 2010 taking into consideration EU’s SMP certification framework and other factors. Based on market definition based on Competition Review and verification of the existence or non-existence of a particular telecommunications carrier’s control over the market, this comprehensive review will establish a framework for determining whether regulations on dominance should be applied in the market involved. These system designs with 2010 as their target year need to be organized, including the clarification of the positioning of Competition Review under legal systems, and in the Competition Review for the second phase as well, it is necessary to conduct legal positivist analyses on a continuous basis.”

It has so far been thought that the purpose of the Competition Review is to analyze the structure and competition situation of an existing market panoramically and objectively in order to make basic materials for policy planning and that the Competition Review aims to provide data concerning the competitive environment in the telecommunications field, but is not directly connected to specific regulation and other policies. However, it is inappropriate to maintain this way of thinking in the future, for it is five years since the beginning of the Competition Review, and the Competition Review has become more sophisticated and more firmly established. In this regard, there is a sign of change as described above. Policy evaluation has a meaning only if the result of that policy evaluation is used for improving regulations into what they should be in reality.

The fusion of communications and broadcasting and the cross-layered integration and coordination of services that accompany the fusion have brought about the development of advanced information society and the challenge of new information and communications policy. In the future, appropriate Competition Review will be essential as a foundation for considering an ideal law system in telecommunications. Further development of the Competition Review requires consideration and deliberation. This article is only a milestone of the research for the further development in telecommunications industry.