REGULATION ON SETTING TECHNOLOGY STANDARDS UNDER THE ANTIMONOPOLY LAW OF JAPAN

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I. INTRODUCTION

A. Recent Trends

On December 14, 2000, the Japanese Fair Trade Commission (JFTC), the competition authority in Japan, announced a clearance allowing a single joint venture company to manage and grant licenses of the standardized technology for the next generation telecommunications system for mobile phones known as the "3G Patent Plathome."[1] This was the first case in which the JFTC formally publicized its analysis under the Antimonopoly Law[2] with regard to the setting of technology standards in a specific case.[3]

In recent years, more and more researchers have conducted joint research and development projects aimed at setting technology standards, with many of the projects currently under review to determine their worldwide feasibility.[4] Under these circumstances, the JFTC has just begun its analysis

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1. According to the JFTC, nineteen mobile phone manufacturers and telecommunications companies have contributed the patents essential for the development of the next generation system of mobile phones, the "3G Patent Plathome." The contributing companies wanted to incorporate a jointly owned company to control and manage the developed technologies as well as grant licenses with unified terms and conditions to third parties. The JFTC provided clearance for the arrangement on the basis that there would be no anticompetitive effects either in the relevant product market or among the standardization of technologies. Thus, the JFTC admitted that there are, in principle, pro-competitive effects from setting the technological standards. *See* Press Release, Japan Fair Trade Comm'n (Dec. 14, 2001), *available at* http://www.jftc.go.jp.

2. The Act Concerning Prohibition of Private Monopoly and Maintenance of Fair Trade, Act No. 54 of 1947 [hereinafter Antimonopoly Law], *reprinted in* HIROSHI IYORI & AKINORI UESUGI, THE ANTIMONOPOLY LAWS AND POLICIES OF JAPAN app. A, at 387 (1994).

3. In 1999, the JFTC approved the joint research and development activities of welding material manufacturers that possessed a dominant market share to enable them to develop standards for the recyclable packaging of welding materials. The JFTC's reasoning was simple: the products in question were merely packaging materials, and the manufacturers' joint activities would not affect the welding materials market directly. *See* Japan Fair Trade Comm'n, Jigyousha no Katsudo ni kansuru Soudan Jireishu [Report on the Activities of Entrepreneurs Presented for Prior Consultation] (Mar. 2000) [hereinafter Activities Report].

4. For example, several automobile manufacturers jointly developed the next generation automobile using fuel cells and fuel cell products. *See* FUJI RESEARCH INST. CORP., THE FUTURE OF THE FUEL CELL, vol. 126 (Feb. 21, 2000).

as to how the Japanese Antimonopoly Law treats the setting of technology standards, and a study group consisting primarily of academics who specialize in competition or intellectual property law published its report on the subject on July 25, 2001.[5] To date, there do not appear to be any court precedents that discuss the analysis under the Antimonopoly Law with regard to setting technology standards.

B. Scope

There are two major categories of technology "standards": (1) *de facto* standards, or those that private firms develop and adopt within a particular industry, and (2) *de jure* standards, or those adopted/regulated by public organizations and governments.[6]

There are two different types of *de facto* standards. One *de facto* standard is for technology that a single firm principally develops and achieves, and that survives competition from other technologies to become the standard in a given industry. While a firm may enjoy monopolistic profits from setting such standards, only an undertaking that utilizes a full range of a given industry's necessary technologies and also has ample funds and resources actually will achieve this goal.

The other type of *de facto* standard is a technology standard that several firms (undertakings with either a horizontal or vertical relationship) jointly developed to set the standard in a given industry. There are several incentives to the joint development of standards. First, from the viewpoint of the firms jointly setting the standards, it is not necessary for each individual firm to have either a full range of the necessary technologies and intellectual property or the ample financial support required to develop the technologies. In fact, it likely will become more and more difficult for a single firm to single-handedly develop the technology that may become the standard in a given industry—in particular, a standard for a completely new product. For example, the development of new automobile equipment requires a wide

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5. *See* Press Release, Japan Fair Trade Comm'n, Technology Standard and Competition Policy (July 25, 2001), *available at* http://www.jftc.go.jp. The Activities Report discusses problems raised by the activities that set *de facto* standards, as well as issues that arise after setting those standards. *See* Activities Report, *supra* note 3, at 27. The Activities Report also discusses potentially illegal conduct by firms, including false statements to consumers regarding the status of the developed standards. *Id.* For example, if a participating firm intentionally hides specific intellectual property (*e.g.*, patents) and then refuses to license rights to the hidden intellectual property after the establishment of the technology standards, the refusal would violate the Antimonopoly Law as an unfair trade practice. *Id.*

6. *See* FUKUTARO WATANABE & TORU NAKAKITA, SEKAI HYOJUN NO KEISEI TO SENRYAKU DE JURE SUTANDADS NO BUNSEKI [CREATION AND STRATEGY OF WORLDWIDE STANDARDS: STUDY ON DE JURE STANDARDS] (2001).

range of knowledge and experience to produce the various products and components that will be incorporated in or connected to the automobile navigation system. While there may be some exceptions, it is unlikely that a single company will have the requisite technologies and knowledge to expertly produce all of these products and components. Moreover, a single company may not be able to obtain the necessary titles and licenses of the vast amount of intellectual property rights and technologies in order to conduct adequate research and development and completely avoid infringement.

Second, the firms may diversify their risk by saving time and costs for research and development, and avoid taking all or nothing by pursuing the technologies with the other firms that have expertise in various areas.

Third, standardized technologies allow the manufacturers to use common parts and components and thus achieve economies of scale and lower manufacturing costs.

Fourth, the joint setting of standards enables the interchangeability of systems and equipment that were not originally interchangeable. Complexly combined systems and products that require connectivity or seamless subsystems and/or components in turn require expertise in particular areas to develop new technologies.

The advantages of setting standards accrue not only to firms but to consumers as well. For instance, consumers may no longer purchase the products from the firms that adopted the non-standard technology, if one of the technologies in a given industry becomes the standard. Those firms that manufacture the products using the non-standard technology and fail to update their technology to meet the standard may have to withdraw from the given industry. If, for example, the manufacturer of a particular type of computer software must cease production for some reason, there likely will be accumulated data rendered inaccessible for future use. If interchangeable software using the same standardized technology could access such data, consumers may avoid the switching costs required in such a situation. Furthermore, there are certain products and services such that the more consumers use the product or service, the more the product improves and is widely spread.

More importantly, such joint activity for setting standards may create new products, which ultimately could lead to the creation of new markets.

Based on the perception that setting standards not only promotes consumer benefits but also may have pro-competitive effects, I will discuss next the joint setting of technology standards by plural firms (undertakings with either a horizontal or vertical relationship) under the Antimonopoly Law.

II. ANTITRUST CONCERNS OF THE SETTING OF TECHNOLOGY STANDARDS BY PLURAL FIRMS

A. Anticompetitive Effects

Although the joint setting of technology standards by plural firms may have potentially pro-competitive effects, there may be resulting anticompetitive effects as well. One such antitrust concern is the exclusion of other firms from a particular technology or product market, and the subsequent evaporation of competition from that market. Furthermore, if one of the participating companies possesses dominant power in a particular product or technology market, other companies with products or technology used in combination with the dominant company's product or technology may hold the same power as the dominant company in another product/service market. While such holding of a dominant position itself would not violate any provision of the Antimonopoly Law, if dominant companies abuse their power by excluding other companies' products or technology, their actions may violate the Antimonopoly Law as a private monopolization, unreasonable restraint of trade, or unfair trade practice.[7]

Another concern is that the standards, once adopted, may function to fix the current technologies as the standard, thereby preventing or inhibiting the development of new technologies. However, this concern will prove to be relatively less serious as long as the competition in the products and technologies based on such standards is maintained,[8] for in many industries new technology was developed despite the existence of *de facto* standards (*e.g.*, the development of the "Game Cube" by Nintendo, "PlayStation" by Sony Entertainment, and "X-Box" by Microsoft).[9]

B. The Effect of Products and Services on Competition

The JFTC's announcement on December 14, 2000, discusses the 3G Patent Plathome, for which the joint participants developed a market that they would control through a jointly owned company. In most cases, however, multiple markets relevant to the standardized technologies are

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7. *See* Activities Report, *supra* note 3, at 20.

8. *See infra* Part II.C. While it is important for the JFTC to secure competition among technology standards, it should not prohibit all restrictions, as firms likely would lose the incentive to conduct future research and development. Rather, the JFTC should allow certain restrictions for a defined, finite period so long as the restrictions will not impede competition and the joint activities will not violate the Antimonopoly Law as unreasonable restraints of trade. *See infra* Part III.C.

9. *See* WATANABE & NAKAKITA, *supra* note 6.

closely related to each other, and therefore the effects on the competition in such markets must be reviewed. For example, assuming that there is an advanced car navigation system jointly developed by automobile manufacturers, computer manufacturers, monitoring system integrators, car part/component manufacturers, and a telecommunications company that have expertise in each area, this system has a good chance to become the technology standard in the given industry and will be protected by intellectual property rights. In assessing this new technology under the Antimonopoly Law, effects on the competition in each area must be reviewed. Namely, while we should examine the competition in the market for the jointly developed car navigation systems first, we also should consider the effects on the competition in the markets of each product (*e.g.*, automobiles and computers) and the resulting products (*i.e.*, the market for automobiles with car navigation systems) (if any).

This assessment does not necessarily mean that the activities for setting standards of technologies should not be allowed under the Antimonopoly Law, even if *exclusive* use of the standardized technologies by participating companies may affect competition adversely in certain products. In other words, unless there is open access for the products and services related to the products that require the standardized technology, competition in the markets for the products and related products will be affected directly or indirectly depending on the combination of, and the dependency between, the products in question.[10]

C. Competition in the Technology Market

It is a basic and common understanding that the joint activities of plural firms for setting technology standards must not impede competition in the technology market. On the other hand, it would be difficult for the JFTC or a court to find the firms' joint activities for setting standards (*i.e.*, mere activities without involving the conduct after the development of standardized technology) to be in violation of the Antimonopoly Law solely based on the *possible* anticompetitive effects on the technology market for the following reasons:

1. Unless the manufacturers that possess and refuse to license certain important intellectual property rights in the existing technologies of a

10. The competition for equipment and/or parts that will be incorporated in such car navigation kits also should be examined. If only certain components manufactured by particular suppliers can be incorporated into the kits, then competition in those component parts will be affected.

product participate in the joint activities, potential competition in the technology market will remain.

2. Furthermore, in many cases, at least at the time the participating manufacturers commence the joint activities, uncertainty exists as to whether the joint activities will create new technology successfully and whether such results eventually will become the industry standard to the point that joint research and development activities must be ceased beforehand.

3. While the competition between the various standards must be protected to a practically reasonable extent, from the perspective of the consumer, the competition in the products manufactured or services provided based on standardized technology may be more important. Requiring open access to standardized technologies may remove the more serious anticompetitive concerns regarding the competition in the products or services, except where firms use joint activities to exclude particular firms from the market in question.

III. ANALYSIS UNDER THE ANTIMONOPOLY LAW IN EACH PHASE OF THE JOINT ACTIVITIES

A. Joint Activities for Setting Standards

If the firms conduct joint activities for setting standards, such activities may constitute an unreasonable restraint of trade or unfair trade practice under the Antimonopoly Law.[11] In addition, the activities of an organization

11. The Antimonopoly Law prohibits three general types of activities: private monopolization, unreasonable restraints of trade, and unfair trade practices. If a single firm (or multiple firms working together) substantially restrains the competition in a particular industry by controlling or excluding others from the market, the conduct will violate the Antimonopoly Law as a private monopolization. *See* Antimonopoly Law § 3. Joint activities among competitors (actual or potential) that substantially restrain competition in a particular field of trade constitute an unreasonable restraint of trade prohibited under the Antimonopoly Law. *Id*. Unfair trade practices are defined in Section 2(9) and are prohibited under Section 19.

Guidelines published by the JFTC provide that joint research and development activities may have pro-competitive effects and therefore are subject to a rule of reason analysis. *See* Fair Trade Comm'n, The Antimonopoly Act Guidelines Concerning Joint Research and Development (Apr. 20, 1993), *available at* http://www.jftc.go.jp [hereinafter Joint Research and Development Guidelines]. The guidelines also indicate that joint research and development activities among competitors may constitute an unreasonable restraint of trade if the research and development conducted by each individual participant would be restricted and competition in the relevant market would be affected to a substantial degree. *Id*. In addition, under the Antimonopoly Law Guidelines Concerning the Activities of Trade Associations, the activities of a trade association in establishing standards will not be prohibited under the Antimonopoly Law if the trade association complies with consumer interests,

that manages and controls the developed technologies may constitute a private monopolization under the Antimonopoly Law.

While Section 21 provides that the provisions of the Antimonopoly Law do not apply to activities recognized as an exercise of the rights under the Patent Law,[12] Utility Model Law,[13] Design Law,[14] or Trademark Law,[15] according to the Guidelines for Patent and Know-how Licensing Agreements,[16] the JFTC interpreted Section 21 to hold that those activities that are not deemed to be a proper exercise of such rights may contravene the provisions relating to private monopolization, unreasonable restraints of trade, or unfair business practices. Based on this interpretation, Section 21 may not excuse the joint activities of plural firms for setting technology standards if anticompetitive effects are foreseeable.

The JFTC will analyze and make a determination of the anticompetitive effects of joint research and development activities (*i.e.*, whether such activities will restrain competition substantially in the relevant market), taking into account the following factors set forth in the Joint Research and Development Guidelines published by the JFTC on April 20, 1993:

(a) The number of participants in the joint activities and their individual market shares;

(b) The character of the research (whether the given project has a direct or indirect impact on the competition in the product market);

(c) The necessity of joint research and development; and

(d) The scope and duration of the joint activities.[17]

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does not discriminate against certain members, and does not force members to comply with established standards. *See* Fair Trade Comm'n, *Guidelines Concerning the Activities of Trade Associations Under the Antimonopoly Law*, 12 LAW IN JAPAN 118 (1979).

12. Japanese Patent Act, Law No. 121 of 1959, *reprinted in* 6 EHS Law Bulletin Series Japan SA-A11 (1966).

13. Jitsuyo Shinan Ho [Utility Model Law], Law No. 123 of 1959.

14. Isho Ho [Design Law], Law No. 125 of 1959.

15. Shohyo Ho [Trademark Law], Law No. 127 of 1959.

16. Fair Trade Comm'n, Guidelines for Patent and Know-how Licensing Agreements Under the Antimonopoly Act (July 30, 1999), *available* at http://www.jftc.go.jp [hereinafter Guidelines for Licensing Agreements].

17. *See* Joint Research and Development Guidelines, *supra* note 11. The guidelines provide that research and development activities could be problematic under the Antimonopoly Law if: (1) the participants' aggregate market share exceeds the 20% safe harbor; (2) the activities are essential to the development of technology linked to standardization within a particular industry; (3) there are restrictions upon which firms may participate in the research and development; or (4) the activities ultimately restrict the ability of any business to remain in the relevant market. *Id*.

Although the guidelines reinstate the JFTC's understanding of the rule of reason approach, they also express the JFTC's concerns about the effects of a possible market foreclosure caused by patent pooling and cross-licensing.[18] However, if there is open access at the time of the development of such technology, there is no reason to prohibit the firms from conducting the joint activities to set the technology standards. Even more important is the issue of how to secure fair and reasonable terms and conditions for the open access.

B. The Participation/Contribution and Selection of Participants

Under the Antimonopoly Law, if parties unreasonably refuse the participation of, or discriminate against, other firms (such as by refusing to admit a firm into a trade association), such a refusal or discrimination may violate the Antimonopoly Law as either an unreasonable restraint of trade or an unfair trade practice.[19] It is impractical and impossible, however, to require that all firms desiring to participate in joint activities conduct research and development for setting standards due to the capacity of their facilities or abilities. In general, if one reasonable and clear-cut criterion for selecting participants exists, and open access to the standardized technologies is allowed to actual and potential competitors, selection of participants itself will not raise any serious antitrust issues under the Antimonopoly Law by requiring the criterion.

We must consider the reasons why a company desires to participate in the joint activities or organization. One important incentive for participation in a research and development joint venture is to gain an advantage by acquiring knowledge, experience, and technology from other firms. In addition, the timing of firms in becoming acquainted with the technology in question is important. If only the participating firms are prepared at the time the technologies are licensed to third parties, or participating firms capture customers before licenses are prepared, open access to the standardized technologies and pro-competitive effects become meaningless. Therefore, we should consider more seriously the time schedule of the license as well as the participants' activities.

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18. *See* Guidelines for Licensing Agreements, *supra* note 16, Part I.3.

19. Organization to make decisions with regard to the participation in the research and development as well as the technology appropriate for standardization within the relevant industry will be necessary. The rules and processes for making the decisions will need to be as reasonable and fair as possible to avoid problems under the Antimonopoly Law.

C. Freedom of Non-Participation

Although any owner of technology should allow access if it is empathized that such access is necessary for the national economy, a refusal to license the technologies by the owner should not, in principle, be problematic under the Antimonopoly Law.

If the agreement between the firms participating in the joint activities unreasonably restricts withdrawal by a firm, the agreement may impede the competition among setting the standards by firms (or group firms) and thereby violate the Antimonopoly Law as an unfair trade practice. On the other hand, if participants may withdraw freely from such an agreement and may remove their contributed technologies at any time, the joint activities for setting standards immediately face difficulties. In practice, there appears to be a common understanding that although a firm may withdraw with appropriate prior notice, it is reasonable if the firm is required to license its contributed technologies that are necessary to continue the joint activities on a non-exclusive basis. Such a non-exclusive licensing arrangement is justifiable for the purpose of the joint research and development activities, and likely would not be problematic under the Antimonopoly Law.

D. Ownership and Management of the Standardized Technologies

Typically, developed technologies necessitate management by a certain organization, which renders certain types of patent pools unavoidable.

Although patent pools can have a pro-competitive effect, patent pools themselves may constitute a private monopolization. For example, if patent holders competing in a market for a type of products form a patent pool and consequently agree to pool all existing and future improved technologies in the patent pool, and if they refuse to grant licenses to new entrants or specific existing entrepreneurs without justifiable reasons, their actions may constitute a private monopolization, unreasonable restraint of trade, or unfair trade practice.[20]

E. License and Use of Standardized Technologies

Considering the essential facilities doctrine, the key element of joint activities for setting technology standards by plural firms is to secure open access to the technologies for third parties (including authorized competitors

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20. *See* Guidelines for Licensing Agreements, *supra* note 16, Part I.1.

of participating firms), so long as the refusal to access excludes potential and actual competitors.[21]

Practical problems concern the scope, terms, and conditions upon which the organization either must allow or may reject access, and it is a common understanding that the terms and conditions under a license agreement, including a possible royalty for the licenses, must not be a *de facto* obstacle for licensees to obtain such licenses.[22] If the licensor requests such an unreasonably high royalty that it would exclude competitors from obtaining a license, then the licensor's actions may constitute a private monopolization in violation of the Antimonopoly Law. However, the essential facilities doctrine is not necessarily the solution. Unless the terms and conditions are determined beforehand, it will not work in a practical sense. In addition, another problem concerns the type of cease and desist order that the JFTC or the court may issue to secure open access. The solution to this does not seem to exist under the current framework of the Antimonopoly Law.

The Activities Report points out that the entity operating or managing the technologies may abuse the decision-making process so that particular firms are treated either favorably or unfavorably. The Activities Report therefore suggests that the JFTC secure a fair process to determine technology standards, which subsequently should include the participation of an independent and nonpartisan supervising third party.[23]

F. Potential Collaboration Between Competitors

Research and development activities that aim to set industry standards may require the exchange of information regarding both technical and market information such as market trends, customer needs, and other product information. Under the Antimonopoly Law, the exchange of business information may be problematic if there is an implicit agreement between competitors. Nevertheless, it is difficult to distinguish the information required for the setting of standards and allowed under the Antimonopoly

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21. According to the essential facilities doctrine discussed in Japan but not yet discussed in court precedents or JFTC decisions, if plural firms are going to set technology standards jointly, and if refusing access to third parties to the technology potentially could exclude competitors, then the plural firms must provide open access to third parties to the resulting technologies.

22. The firms should review the specific terms and conditions of the license under both the Joint Research and Development Guidelines and the Guidelines for Licensing Agreements in terms of the JFTC's review. For example, non-disclosure obligations imposed on either licensees or participants in the research and development activities that would not be problematic during the term of the agreement may constitute an unfair trade practice once the term is complete if they are not reasonably necessary to subsequently protect the confidentiality of the technology.

23. *See* Activities Report, *supra* note 3, at 24.

Law from the information that would be problematic if exchanged. In order to avoid such antitrust risks, participating firms should establish an independent corporation or organization as well as internal firewalls between participating staff members to avoid external concerns that the independent organization is a cartel if competitors are involved. In addition, it is necessary for the firms' legal counsel to continuously monitor the firms by requesting reports on a continuous basis as to the existence of spill-over effects or ancillary restraints that would be problematic under the Antimonopoly Law.

IV. THE NECESSITY OF NEW ORGANIZATION AND PROCEDURES

The Antimonopoly Law authorizes the JFTC to take any measures necessary to eliminate illegal activities,[24] which literally can be interpreted such that the JFTC has the power to order the relevant parties to grant compulsory licenses to third parties.[25] It seems, however, that the JFTC has never issued such orders. The JFTC seems to believe the issuance of such orders may be beyond the scope of its authorization or ability. In fact, the decision to grant the license, and upon what terms and conditions, requires expertise in both the subject areas of the technologies in question and the business practices within the particular industry. In addition, the more joint activities that firms conduct, the greater the expertise in the wide range of technologies and business practices in various industries that will be necessary.[26]

The procedural issues for the open access as described above also should be discussed because it seems difficult for the JFTC or the courts to make a determination on the appropriate terms and conditions under the current procedures. It may be necessary to create completely new procedures by which the party seeking a license and the party refusing to license must abide once the refusal is held to violate the Antimonopoly Law.[27]

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24. *See* Antimonopoly Law §§ 7, 20.

25. *See* Activities Report, *supra* note 3, at 37.

26. The Patent Law contains provisions that authorize the Patent Office (*Tokkyo-cho*) to determine whether a patent owner is required to license a patent in certain exceptional cases. These provisions have not been used as a matter of practice, although the reasons are not clearly identified.

27. Moreover, joint ventures to set technology standards now are conducted worldwide by firms that have many different nationalities and locations. In addition, such activities may have a significant impact on the markets of each country. While such an impact may well depend upon each country's business environment and competition laws, a uniform, or at least similar, standard of review will be important to standardize.

V. CONCLUSION

In summary, the key issues related to the setting of standards by plural firms under the Antimonopoly Law are (1) securing, as a scheme and as a matter of practice, open access to the standardized technologies and lead time for the introduction of the standardized technologies to maintain the competition of the product/service market for which the standardized technologies are used as well as the competition to set the standards, and (2) discerning how to evaluate fair and reasonable terms and conditions that will provide access to the standardized technologies in order to either analyze whether the refusal of a license constitutes a violation, or restore the competition if the setting of standards impedes the competition in the product/service market. Moreover, the restriction on the participating members must be minimal to the extent reasonably necessary to conduct the appropriate joint activities for setting standards. The ideal answers to these questions under the framework of either the Antimonopoly Law or the Japanese civil law system are likely to come through the further analysis that will continue in Japan as these activities continue to increase in importance.