

Interface of Competition Law and Intellectual Property Rights

by

Yi Fan

Student No.: 2634518

Major paper submitted to the

Department of Economics of the University of Ottawa

in partial fulfillment of the requirements of the M.A. Degree

Supervisor: Professor Gamal Atallah

**Ottawa, Ontario
September 2003**

TABLE OF CONTENTS

Section 1	Introduction	1
Section 2	Licensing	5
2.1	Tying	5
2.2	Exclusive restrictions	8
2.3	Cross-licensing and patent pools	13
Section 3	Network industries, intellectual property rights and competition policy	16
3.1	Overview	16
3.2	Competition and market power in network industries	19
3.3	Antitrust issues raised by intellectual property rights in network industries	24
Section 4	Policy treatment in relation to the interface between IPRs/competition in different countries	28
4.1	The United States	28
4.2	Canada	33
4.3	Japan	38
4.4	The European Union	41
4.5	Comparative Analysis	45
Section 5	Summary and conclusion	48
	Bibliography	50

1. Introduction

Modern economy is increasingly based on the accumulation of knowledge and innovation and driven by rapid advancements in information processing and telecommunications. And, with the elimination of many barriers to trade, survival in highly competitive markets largely depends on the development and adoption of innovations. Economists today recognize that innovation is essential not only to economic growth but also to the process of competition in an advanced industrial economy. In these circumstances, competition laws and intellectual property rights are regarded as two key instruments of government policy, providing incentives for innovation and the rapid diffusion of new technology. The competition laws and the intellectual property laws share the common purpose of promoting innovation and enhancing social welfare. Without doubt, one of the most difficult challenges for competition policy today involves the issue of technological change. Specifically, how should traditional enforcement policies be altered to match rapid technological progress?

Intellectual property rights (IPRs), including trademarks, copyrights, patents, registered industrial designs, provide incentives for innovation and prevent the innovation from widespread copying which undermines the return from innovation.

An important difference exists between intellectual property (IP) and physical property. Unlike physical property, intellectual property can be used by many individuals at the same time. It is almost impossible for the owners of IP to prevent their properties, once created, from being copied and enjoyed by others. This

“free-riding” problem is exacerbated because intellectual property is relatively costless to transfer from hand to hand while being often expensive and laborious to develop. Obviously, this free-riding problem reduces the incentives to invest in innovation. Consequently, in order to stimulate innovation, legal and limited monopoly controls over IPRs are granted to innovators by IP laws. IP laws protect the basic property rights of the IP holders. An IP holder can be exclusively benefited from his IP when it is not exhausted. However, the abuse of IPRs exceeds the protection provided by IP laws and falls within the control of competition laws. Thus, the legal and institutional framework for the enforcement of IPRs is an important factor bearing on their overall impact.

Meanwhile, competition laws or antitrust laws are generally designed to protect consumer welfare by removing impediments to competition. Competition law should take as a constraint the exclusive property right that is provided by patents or other IPR protection. Monopolizing practices are often condemned under competition laws. The principle underlying competition law is that the public interest is best served by competitive markets, which are socially desirable because they lead to an efficient allocation of resources. Competition laws usually contain several specific provisions relating to IPRs, which limit monopoly control over IPRs, to promote the diffusion of innovations.

In order to efficiently enforce competition laws and manage competitive market, many countries set up specific departments to deal with competition-related issues such as the Antitrust Division of the Department of Justice in the United States, the

Competition Bureau in Canada, and the Fair Trade Commission in Japan. In addition,

“Depending on the antitrust institutions and law in a country...Successful prosecution of antitrust can result in (i) fines, (ii) imprisonment, (iii) cease-and-desist orders, and (iv) divestiture of assets and dissolution of organizations.”¹

Obviously, both IPRs and competition laws are necessary for the efficient operation of the market. But this apparent inconsistency makes it difficult to articulate a coherent public policy at the interface of IPRs and competition law. Many legal systems today monitor the exercise of IPRs within the framework of their competition policies. Even though the exercise of IPRs is already extensively regulated by IP laws, an extra tier of regulation is added by competition law to ensure that the grant of exclusivity by IP laws is not misused by being incorporated into cartels and market sharing arrangements or monopolistic practices which deny access to markets. Consequently, ensuring an appropriate balance between IP protection and competition law has been a central and long-running consideration of economists, legal professionals and policymakers in the world. They have been seeking to enable the enforcement agencies to proceed in a way that will promote competition through vigorous antitrust enforcement while encouraging innovation with IPRs.

The interplay between competition policy and intellectual property is the subject of an extensive body of economic and legal literature. In this paper, we seek to provide some useful insight into the analysis of the interface between IPRs and competition laws in the light of the established criteria of modern competition policies relating to IPRs.

¹ Church & Ware, 2000, Appendix, p.889

The paper is divided into five sections. Section 2 will analyze several licensing restrictions. Section 3 examines network industries/compatibility. In section 4, the experience of different countries in relation to the interface of IPRs/competition is presented. Section 5 summarizes and concludes.

2. Licensing

The study of the impact of licensing practices on competition is one of the most active areas of interest to antitrust economists and to those concerned directly with enforcing and designing policy. High-tech industries impose some special challenges for antitrust enforcement.

In this section, we will analyze several specific licensing practices involving IP, such as tying, exclusive restrictions, cross-licensing and patent pooling, which have attracted scrutiny under competition law. We present a number of points concerning the procompetitive effects of licensing agreements as well as the major possible anticompetitive effects. We begin by focusing on licenses that contain a tying clause.

2.1 Tying

Tying refers to a situation where a manufacturer sells one product, the tying product, only to those who also buy from that manufacturer a second product, the tied product. In high-tech industries, tying arises frequently in markets involving IP. In the context of a licensing agreement, tying exists when a licensor conditions the grant of a license upon the acquisition of some separate product. This is sometimes called “technological ties”².

A traditional argument for tying was that the monopolist in market A (the tying -goods market) could leverage³ its market power from market A to market B (the

² Church & Ware, 2000, p. 159

³ Leveraging exists when a firm uses its advantage from operating in one market to gain an advantage in selling into one or more other related markets. However, the leverage theory was attacked by Chicago economists. They used a very simple model describing a monopoly in one market and perfect competition in a second. Suppose that

tied-goods market), thus providing market power to foreclose the sales in market B and increasing monopoly profits at the expense of consumers. But this theory raised heavy criticisms.⁴ In addition, the traditional analysis advances several welfare-enhancing motivations for tying, such as economies of scope, protection of goodwill, and risk-sharing.⁵

In the licensing agreements involving IP, tying has a strategic role in business operations, which often has some efficiency effects for licensor, licensees, and consumers. From the aspect of an IP holder, it is easy to see why the tying strategies might attract him. First, the IP holder may tie the compatible components with the purchase of an IP-related system. For example, Microsoft ties its patent softwares, such as Internet Explorer and Windows Media Player to the Windows operating system. The licensor can create the consumers' loyalty and amplify his market share by tying sale. Moreover, tying can protect the IP licensor's reputation by preventing other suppliers from providing poor performance components to his IP-related systems. Second, an IP licensor may use tying sale to facilitate price discrimination to extract more profits and further reward innovation. Finally, tying can enable the IP licensor to commit to manage his IPR in a "socially constructive manner".⁶ From the perspective of consumers, tying may be an explicit requirement to purchase the tied

all consumers value a monopolized good, the tying good, at V_m , i.e. the consumers are homogeneous. The marginal cost of producing the tying good is C_m . The tied goods are valued at V , which is produced in a perfectly competitive market at marginal cost C . If the monopolist chooses to tie the two goods together, the most that it can charge for the tied goods is $V_m + C$, the price of the tying good plus the marginal cost of the tied good. This yields profits equal to $V_m - C_m$, which is exactly the same as when the monopolist does not tie. If the monopoly charges more than $V_m + C$, the consumer prefers to purchase only the tied product on the competitive market at price C instead of purchasing the package of the tied and tying goods. Monopolist can extract its monopoly profits only once. Tying cannot necessarily therefore be used to leverage the monopolist's profit in another market. See Winston, 1990

⁴ See, e.g., Whinston, 1990, Baxer & Kessler, 1998, and Church & Ware, 2000.

⁵ Baxer & Kessler, 1998

⁶ Baxer & Kessler, 1998, p.142

product for the consideration of efficiency. Tying is comparatively easy to accept especially when the consumers think that there is no better substitute for the tied-goods and when the customer service is provided for both tying-good and tied-good simultaneously. The Microsoft case provides a good example. In that case, Microsoft's Windows sustained dominance of computer operating system (OS). Therefore, consumers prefer to accept the softwares that are tied with the OS from Microsoft because consumers do not need to worried about the compatibility and the performance of the tied-software. Also, tying may be accepted indirectly by financial inducements within the context of IP when the royalty payment differs between purchasing tied-goods from the licensor and from elsewhere.⁷

Nonetheless, tying agreements involving IP can adversely affect competition. From the point of view of IP licensor's rivals, tying infringes on their rights to free access to the market for the tied product. Reinforced by the intellectual property, tying can commit the IP holder to be a more aggressive competitor. The Microsoft litigation provides an illustrative example. Tying by IP licensors leaves a smaller market share available to a new entrant and ultimately deters entry. These conducts significantly impede competition as well as future innovation. In addition, tying can operate much like an exclusive dealing agreement. It gives a licensor who has market power in the tying product a convenient first-mover advantage by granting the use of IP to engage in an exclusive dealing contract with the consumer with respect to the purchase of the tied product.⁸ From the consumer's perspective, tying infringes on the rights of

⁷ Gilbert & Shapiro, 1997

⁸ Gilbert & Shapiro, 1997, p.318-319

consumers to freely choose products on the tied-product market. Consumers are forced to purchase the tied-product that they actually do not want. Moreover, consumers have less variety on the tied-goods market because of the IP licensors' foreclosure.

We have identified the major economic benefits and costs of tying in the context of IP. Thus the policy treatment of tying in the realm of IP should recognize that although tying raises some antitrust concerns when market power is an important consideration, many of the benefits of tying arise when new technology is concerned. As a result, tying involving IP should receive a relatively tolerant treatment comparatively to the treatment of traditional tying. However, recent research has shown that the welfare implications of tying are ambiguous, particularly in markets for intellectual property.⁹ This ambiguity complicates the policymakers' task in designing the competition policy treatments regarding to tying relating to IP.

2.2 Exclusive restrictions

In IP licensing agreements, the licensors usually impose various exclusive restrictions on the licensees' exploitation of their IP. For example, through an exclusive dealing clause in the IP licensing agreement, an IP licensor can maintain his market share by preventing the licensees engage in the business conducts of the licensor's rivals. To some extent, the exclusive restrictions seem to impede competition in the market. However, within the context of IP, competition policy

⁹ Baxter & Kessler, 1998

enforce mild treatments towards these restrictions other than direct prohibition. It permits the exclusive right of an IP holder to exploit its innovation within justified scope as long as his IPR is not exhausted. Importantly, the positive incentive for innovation can result from the legal respect of exclusive exploitation of the innovator that benefits technological and economic progress. Moreover, the IPRs transferred in the licensing agreements can be legally established and protected by IP laws.

Significantly, there exist possible inconsistencies or conflicts between the IP holder's desire for competition among licensees and the social desirability of that competition. IP-related exclusivity restrictions, when they are anticompetitive, have the effect of directly excluding other firms from entering the market that may suppress competition. At this point, competition law should take as a constraint the property right of exclusivity provided by IP laws. Under these circumstances, the antitrust authority may require a compulsory and non-exclusive licensing in order to increase competition.

The objective of this subsection is to analyze exclusivity restrictions in licensing agreements for the exchange of rights to the use of IPRs. We can identify three main types of exclusivity restrictions: exclusive licensing, exclusive territories, and exclusive dealing. In addition, tying, resale maintenance can in some circumstances be seen as exclusive restraint.¹⁰

Exclusive licensing is an exclusive right by the licensee to engage in the business conducts that contain the licensor's innovation.¹¹ At the same time, the

¹⁰ Church & Ware, 2000

¹¹ Rey & Winter, 1998

licensor is forbidden to release his technology to the third party.¹²

An IP exclusive licensing agreement may yield efficiencies since it facilitates the efficient allocation of resources. From the IP holder's perspective, exclusive licensing is a good way to avoid substantial sunk costs related to production of the IP-related products. The IP owner is not necessarily the same owner of the tangible property, such as factory and machines. Thus, it is more efficient to transfer the intellectual property to someone who does have the tools of production. Moreover, the exclusive licensing agreement can retain the IP holders with the right to share the profits from the use of that IP through collecting royalties.¹³ So, the IP holders may have continuous royalty revenues, which can be invested in his future R&D. From the licensees' perspective, they can make use of the present intellectual property through exclusive licensing that avoids the expensive and laborious R&D process. In addition, by restricting the IP holder to license to a third party, the licensee may retain a large market share through exclusivity to compensate his investment on production and sale such as advertising and service. Moreover, such market concentration can partly avoid excessive quantities of that IP-related product in the market.

However, an exclusive licensing practice is considered anticompetitive if it suppresses competition and the incentives for innovation. An IP exclusive licensing may impede the diffusion of technology because the IP holders are forbidden from releasing the IP to someone other than the licensee in the agreement. The licensee can

¹² Gallini & Trebilcock, 1998

¹³ Rey & Winter, 1998

dominate the market since the exclusive licensing agreement excludes potential competitors from entering the market. Also, exclusive licensing may, in fact, be part of an inefficient strategy for both parties of the agreement. According to Rey and Winter (1998), the licensor and the licensee compete in the same product market in horizontal case.

Exclusive territories refer to a market divided into several geographical territories, such as countries, and each territory may be assigned exclusively to one licensee. The licensee is given the exclusive right to its own territory, but gives up the right to sell elsewhere.. Exclusive territory restriction simply divides the existing right.

Exclusive territory restrictions adopt two forms, open-territory restrictions and full closed-territory restrictions. The extent of protection that the exclusive territory restrictions provide to licensees raises considerable competition concern. In general, an open-territory exclusivity clause in an agreement does not lead to controversy among policymakers since this restriction coincides with the principle that competition policy should respect the right of an IP holder to exclusively exploit his innovation in all the markets where the IP is valid. An IP holder does not create additional monopoly power by dividing up its potential market and selling each section to a different firm. In addition, open-territory restrictions do not significantly impede diffusion of technology. Therefore, usually the open-territory restriction does not create anticompetitive concerns.

What the policymakers consider most is whether closed-territory restrictions

should be allowed.¹⁴ The conflict between an individual country's incentives to protect IPRs and the global interest arises in the design of competition policy. From an individual nation's prospective, the objective of competition policy is to improve the welfare of its own citizens. Territorial division may be efficient for managing business conducts of domestic licensees.¹⁵ Also, closed-territory restrictions can facilitate domestic licensees to maximize profits by suppressing international competitions. However, if a nation adopts closed-territory restrictions that exclude competition from foreign countries, it will prevent international diffusion of technology and the justifiable competition among countries, which can induce the price of domestic IP-related products to raise above the competitive level.

Exclusive dealing refers to an one-to-one business relationship between licensor and licensee through the licensing agreements. With the exclusive dealing clause, the licensee is prohibited to engage in the use or sale of the technology or products of the licensor's rivals.¹⁶ From the licensor's perspective, exclusive dealing is an instrument to prevent the licensee from adopting substitute technologies. At the same time, the IP licensor promises not to release the innovation to the licensee's competitors.¹⁷ From the exclusive licensee's prospective, exclusive dealing helps to exclude potential competitors. For example, Microsoft restrict many Internet Service Providers (ISPs) to install only Microsoft's Internet Explorer Web Browser.¹⁸

There are procompetitive reasons for the use of exclusive dealing. From the IP

¹⁴ See, e.g., Anderman, 1998, Anderson, Feuer, Rivard & Ronayne, 1998, and Rey & Winter, 1998

¹⁵ Rey & Winter, 1998

¹⁶ Bernheim & Whinston, 1998

¹⁷ Gallini & Trebilcock, 1998

¹⁸ Church & Ware, 2000

holder's prospective, such agreements reduce the uncertainty of demand and thus encourage the development of technology. From the licensee's side, exclusive dealing can be an efficient way for the licensee to collect more profits from his exploitation of IP, which may compensate his investment to gain the grant of the IP and the promotion of the IP-related products.

Nonetheless, exclusive dealing may raise anticompetitive concerns especially when the licensee has a large share of the product market, or at least he has a significant advantage over other firms in the competition for a significant number of buyers, an exclusive contract may effectively foreclose the market to other firms, i.e., create a barrier to entry.¹⁹

2.3 Cross-licensing and patent pools

Cross-licensing is an exchange of intellectual properties, which were held separately by multiple rights holders. It provides each party legal adoption to the other parties' intellectual properties. The incentive of engaging in the cross-licensing agreements is that the parties tend to reduce the patent infringement uncertainty of firms investing in R&D.²⁰

The benefits of imposing cross-licensing on R&D are widely recognized. First, cross-licensing allows reciprocal use of IP.²¹ It increases the utility value of the patents by technological exchange. Second, a cross-licensing agreement is much more efficient and productive by substantially avoiding costly infringement litigation while

¹⁹ Gilbert & Shapiro, 1997

²⁰ Beard & Kaserman, 2002

²¹ Arai, 2001

pursuing R&D activities, obviating merely replication of the existing knowledge, lowering transaction costs such as research costs and royalties, and lowering barriers to entry. Otherwise, in the absence of cross-licensing agreements, the accumulation of such costs will cause final output to be lower and prices to be higher.²²

Nevertheless, many economists and legal professionals have expressed concerns over the possible impediments to competition that cross-licensing may create. For example, an IP cross-licensing agreement can be used to impose restrictions on business conducts, which substantially restrict competition. Also, a cross-licensing agreement raises barriers to entry for the new entrants by which the firms within the agreement foreclose the access to competing technology and restrict new competition. Moreover, collusion can be generated through cross-licensing agreements in which collusive prices may be obtained.²³

However, Beard and Kaserman (2002) argued that all fears that cross-licensing agreements may impede competition are misplaced. Indeed, according to them, many criticisms of cross-licensing may arise primarily as complaints about anticompetitive provisions contained within a cross-licensing framework. In other words, cross-licensing is an ancillary instrument to impose restrictions in the agreement. Cross-licensing itself does not raise anticompetitive concerns. In addition, Beard and Kaserman emphasized that if the restrictions contained within a cross-licensing agreement cannot reasonably be shown to be necessary to affect patent sharing, they

²² Beard & Kaserman, 2002

²³ Eswaran, 1994

should not be considered a part of the cross-license.²⁴

Patent pools are agreements among firms when pool participants agree to pool all existing and future improved technologies in the patent pool and cross-license.²⁵ By promoting the dissemination of technology and lowering the cost of R&D, patent pooling arrangements are often procompetitive. According to Dunford (1987), patent pools is an instrument for firms to avoid R&D independently and access others' technology legally. In fact, a patent pool itself will not become problematic as monopolization or a restraint of trade unless the new entrants are refused to use the pooled patent without reasonable conditions.²⁶

Nonetheless, patent pools may raise anticompetitive concerns in some situations. First, if the pool participants collectively possess market power in the market, they may either refuse to license the new entrants or impose unreasonable limitations on participants in order to control the participants' common markets.²⁷ Second, patent pools harms competition by creating collusion among participants of the agreement.

²⁴ Beard & Kaserman, 2002

²⁵ Gilbert & Shapiro, 1997

²⁶ DOJ & FTC, 1995

²⁷ Dunford, 1997

3. Network industries, intellectual property rights and competition policy

3.1 Overview

High-tech industries, such as computers, electronics, telecommunications, and information processing, provide the driving engine of economic growth today. Many of industries are known as network industries as well because of the prevalence of network effects. Rubinfeld (1998) distinguished between two types of networks: communication networks, such as telephone systems and fax machines, and virtual networks or hardware-software network in which no actual communication takes place between the users of the network. Interest in network industries has grown recently since a lot of economic activities involve such dynamic industries where there has been substantial innovation and rapid technological change.

Competition policy applies to network industries as it applies to other industries, but network industries impose some special challenges for antitrust enforcement due to a number of issues that makes competition in network industries different from that observed in traditional industries.

First, network effects exist in a network industry.²⁸ A network effect means that the benefits of participating to the network are positively related to the network size.²⁹ Network effects may arise directly or indirectly. The direct network effect comes from the consumers' need and expectations, while the indirect network effect is generated from the incentives of suppliers to become part of the network. The presence of the

²⁸ Unless otherwise indicated, the discussion in this section pertains only to network industries.

²⁹ Farrell & Katz, 1998

network externalities is one of most prominent attributes of a network industry, which follows from the positive relationship between the benefits of the network and the network size. A direct network externality arises when the attraction of a network depends directly on the number of the adopters. While an indirect network externality exists when the number of adopters is negatively related to the price of the compatible complementary products and positively related to the variety of the compatible complimentary products.³⁰

The behavior of consumers is another feature of network industries. The relationship between consumers' expectation and the size of network is interactive. A large installed base may attract more consumers, contributing further to good future expectations for its size. Conversely, the good expectations of consumers and more adopters of the network today increase network size.

In the context of a network industry, the questions of standardization and compatibility are very important. Actually, the firms that set up prevailed standard in network industries can make more profits. In addition, compatibility can facilitate the firms to sustain their market share. When most users in the industry adopt the same technology, it may facilitate the adoption of a unique standard. Industry standards take many forms. The standard can be proprietary or not. A proprietary standard is protected by IP laws, so it is not easily replaced by other standards. When the standard is not proprietary, considerable competition will exist in the same network. Moreover, more than one standard can coexist at the same time. Compatibility means different

³⁰ Church & Ware, 1998

networks can use the same technology, i.e., the same standard. For example, different banking cards can do transactions at one specific bank's automated teller machine. In a network industry, the producers undertake many strategies to set up the de facto standard and try to exclude new entrants from the dominant network or make new products incompatible. By doing this, the suppliers maintain a closed system in order to preserve their dominance position in the industry.³¹

The speed of technological change in network industries is greater than in traditional industries, in which the product often has a long life cycle. Even if suppliers of the network try to set up a de facto standard, the standard may be temporary in such a dynamic industry. The old standard can be replaced by the new standard very quickly. In dominant industries, the market is often a "moving target",³² evolving as technology changes in response to innovation. In other words, the concentrations of market power are often "fragile".³³

IPRs play an important role in network industries. The purpose of IPRs is to provide the innovator limited monopoly control over intellectual property in order to stimulate innovation. The traditional role of IPRs is to optimize the trade-off between incentives of innovation and diffusion of innovation, by providing enough but not excessive protection for the intellectual property.³⁴ Balto and Pitofsky (1998) argued that in network industries, IP protection might not have to be "absolute".³⁵ They

³¹ Church & Ware, 1998

³² Rubinfeld, 1998, p.875

³³ Schmalensee, 2000, p. 193

³⁴ Church & Ware, 1998

³⁵ Balto & Pitofsky, 1998, p. 598

thought that network externalities plus strong IP protection potentially equal sustained market dominance.³⁶ As a result, sometimes the strong protection of IP is undesirable since it eliminates the competition for standard-setting and results in monopolization. Moreover consumers may have fewer choices among different networks because new technologies are deterred by the strong protection of IP. Under these circumstances, competition law can play a role by fine-tuning IPRs in network industries.

Because of those special economic characteristics of network industries, unique enforcement of competition policy and s has to be undertaken in such industries. In the following subsection, we will analyze those economic factors, such as standard-setting, installed base, compatibility, etc., which may create significant market power in a network industry. Moreover, we consider that these have implications for the interactive enforcement of IP protection and competition policy, and for what form of IPR will give the right kind of protection.

3.2 Competition and market power in network industries

Competition in network industries is as aggressive as in other conventional industries, or even more. Standardization, compatibility, installed base, consumers' expectation and IP protection can be the weapons which the firms may use to fight. Further, by those "weapons", firms can create and maintain a dominant position and market power. Moreover, inseparable relationships existing among those strategies facilitate the creation of significant market power.

³⁶ A similar argument is made by Church and Ware (1998).

Standards and compatibility- De facto standardization is created when most consumers adopt the same technology. Some economists argued that technology in network industries is such that technical standard-setting is necessary for communication within the same network.³⁷ Moreover, if technical standard-setting is absent, products that are produced by different manufacturers cannot work together. Firms in the network industries have the incentive to build the de facto standard because the de facto standard helps them have a “extremely profitable market position”.³⁸

Becoming the de facto standard can attract more customers to join the network and maximize profits of the network. Importantly, the competition for becoming the de facto standard does not necessarily result in a single standard prevailing. Actually, more than one standard may coexist in an industry. For example, consumers may choose to use Master Card or Visa or American Express. Competing standards may offer significantly different attributes that are sought by consumers. However, existence of more than one network may induce excessive products existing in the same network, which leads to inefficient allocation of resources.³⁹

Moreover, industry standards can be divided into two forms, proprietary and nonproprietary. A proprietary standard is only manufactured and sold by a particular firm, which is protected by IP laws. Proprietary standards can be used as barriers to entry by the incumbent firm, which would make competition more difficult for new

³⁷ See, e.g., Farrell & Katz, 1998

³⁸ Besen & Farrell, 1994, p.119

³⁹ Church & Ware, 1998

entrants. More specifically, a proprietary standard may lead to “lock-in”,⁴⁰ which impede the development of present installed base. In other instances, standards are nonproprietary and considerable competition for standards exists. An old standard can be easily replaced because network industries exhibit rapid technological change.

Once an incumbent firm sets up a standard, it has incentives to exclude competition by making products of new entrants incompatible in order to sustain its dominant position. If different manufacturers produce compatible products in a same network, they may share the profits in that industry. Making products of potential competitors incompatible can constitute a considerable barrier to entry especially when the standard of the incumbent firm is proprietary. As a result, firms producing new technologies that are not compatible with the existing installed base are likely to have difficulties getting their technologies adopted.

Compatibility plays a significant role in competition in network industries. The degree of compatibility can affect both the overall level of competition in a market and the competitive advantage within it.⁴¹ The more compatible the products are, the more benefits the consumers can enjoy from price competition, quality competition and other promotions.

Installed base and consumers' expectations- Competition between networks with different standards depends on the relative size of the network. The size of the installed base depends on the number of consumers who adopt the same network.

⁴⁰ Church & Ware, 1998, p.231

⁴¹ Farrell & Katz, 1998

Significantly, both present and future installed bases of the network really matter since the size of the installed base may affect consumers' decision of joining the network. In other words, the benefits those consumers realize from joining a network depend on the number of consumers who already joined and will join the same network.

According to Balto and Pitofsky (1998), the survival and expansion of the networks significantly depends on consumer expectation. A larger installed base today makes consumers optimistic for perspective expansion of the network. So a larger installed base today can attract consumers to attend in the future. To attract more consumers to join the same network today, the incumbent firm may lower the cost of joining the network and provide more complementary products that consumers can choose. Moreover, the expectation of a larger installed base in the future will facilitate increasing the size of the installed base today. To confirm the consumers' decisions to join the present network, the firm may make some promises for expanding its future installed base to influence consumers' expectations. These promises are not necessarily credible especially when the installed base is large enough and the standard is proprietary. Although some promises for expanding the future installed base are not always credible, there are several strategies firms can follow to influence consumers' expectations regarding network size, such as penetration pricing, insurance, second-sourcing, advertising and marketing, hostage, investments in complementary components, and product preannouncements or vaporware.⁴²

⁴² See Dranove & Gandal, 2003, p.2. Product preannouncements far in advance of the products' release date are

The size of the installed base raises a critical problem for diffusion of new technology. A large installed base provides an incumbent technology with a first-mover advantage over new technologies. This advantage of size is much more credible especially when the standard in the old network is proprietary. Under these circumstances, to enter the marketplace, the new network has to undertake considerable efforts to persuade consumers who already have joined the old network that the new technology will offer them more benefits and that the installed base of the new network will be as large as or even exceed the installed base of old network. However, consumers in the old network are risk averse and may not be convinced by the persuasion of the new entrant since they may either 1) have made sunk investments to the old network already or 2) feel uncertain about the future size of the new network. Thus, by sustaining a large installed base, the incumbent may dominate the market and exclude new entrants, which would eliminate incentives for innovation and reduce new competition.⁴³

Protection of intellectual property- The protection of intellectual property may make it significantly easier for incumbent firms to exclude entrants from the market and sustain their market power in the network industries. If the de facto standard is proprietary, on the one hand, the firm that sets up the standard can protect its product from being copied and produced by others. On the other hand, that firm may unilaterally prevent other manufacturers from producing compatible products.

often referred to as "vaporware". Vaporware includes that arrive significantly late due to unexpected technical difficulties and products that arrive late because of strategic preannouncements.

⁴³ Balto & Pitofsky, 1998

Protection of intellectual property may exist within both the installed base and its complementary products. For example, the IP laws protect not only the Windows PC operating system (the installed base) but also softwares (the complementary products) that are based on it.

Moreover, the protection of intellectual property may hurt consumers. The consumers can be locked in the old network because they make considerable sunk investment for the old one in the past.⁴⁴ An incumbent firm with protection of its intellectual property deters new entry and manipulates the network over price, quantity and quality. Consumers do not have much choice that can replace the network they are using when the incumbent firm increases price, limits quantities or lowers quality.

3.3 Antitrust issues raised by IPRs in network industries

The unique characteristics of network industries imply that different enforcements of both competition policy and IPRs need to be undertaken. As we discussed above, standards, compatibility, installed base and consumers' expectations are important attributes in a network industry. The interaction of these elements may create strong market power, especially with the facilitation of protection of intellectual property. IPRs should provide innovators enough incentives to innovate by granting them limited and legal monopoly control over their innovation and exclusively exploiting it within a reasonable period. Importantly, however, IPRs

⁴⁴ Balto & Pitofsky, 1998

should not provide too much protection, which would then become a significant obstacle to competition.

As a result, sometimes strong protection of intellectual property in network industries is undesirable. The preceding discussion has shown that economic factors, which determine the balance between IP protection and competition policy in conventional industries, do not play the same role in network industries. Network effects, which are unique to the network industries, with the facilitation of intellectual property create and sustain market power. Network effects may concentrate the market by setting up de facto standard, and a firm that establishes a standard first may have an incentive to keep the standard for a long time. It sets up a large installed base during the infancy period of the network to attract consumers to join. The firm may then use its IPRs to deter access by rival producers to its installed base or exclude third-party producers of complementary products. For example, in the 1980s, Kodak announced that it would sell the replacements parts only to owners of Kodak equipment who serviced the machines themselves or used Kodak's service. Therefore, other suppliers, such as Image Technical Services, cannot serve Kodak equipment any more because they can not obtain the replacement parts from Kodak.⁴⁵ This kind of conduct can create significant obstacles to competition.

Some economists suggest that competition can be used as a "second-best remedy"⁴⁶ to inappropriately strong IPRs in a network industry. Competition policy is

⁴⁵ Herndon, 2002

⁴⁶ Church & Ware, 1998, p. 254

designed to monitor with market power and ensure sufficient competition in the marketplace. From that perspective, competition policy is used to destroy the market power brought by IP laws to balance the trade-offs between incentives for innovation and competition in the marketplace. Conducts by dominant firms should be scrutinized that may induce anticompetitive effects. However, incumbent firms with appropriate significant market power should not be necessarily discouraged.⁴⁷

More specifically, competition authorities need to scrutinize those strategies the incumbent firm undertakes to influence consumers' expectations such as advertising, product preannouncements or vaporware.⁴⁸ For example, the incumbent firm can boast about its market share to mislead the consumers by advertising. Also, competition authorities should closely watch those firms with a proprietary standard. They may prevent other manufacturers by either refusing to deal or setting an unreasonable price for access to the market with the facilitation of the intellectual property. In addition, when using IP protection excludes other suppliers from producing compatible products, it should be scrutinized by competition authorities.

Regarding the timing of intervention by the competition authority in a network industry, it has been suggested that the intervention should take place at an early stage,⁴⁹ before the incumbent firm creates significant market power that may harm competition.

⁴⁷ A case in point is Microsoft.

⁴⁸ Farrell & Katz, 1998

⁴⁹ Rubinfeld, 1998

In summary, there are some principles for antitrust enforcement in net work industries. First, the antitrust authorities should respect the basic property right of an IP holder. The interventions should minimize the degree of disruption to normal competition. These enforcements can stimulate innovation and protect fair competition. Second, the antitrust authorities should closely watch the network industries with proprietary standards because they usually impose a number of antitrust risks, such as higher prices, reduced output, and suppression of innovation.

4. Policy treatment in relation to the interface between IPRs/competition in different countries

Over the past few years, the relationship between IPRs and competition policy has attracted more attention by legal professionals and policy makers in the world. The United States, Canada, and the European Union issued new policy guidelines pertaining to the application of competition policy towards IPRs.⁵⁰ The Japanese Fair Trade Commission also issued intellectual property guidelines for technology licensing.⁵¹

In this section, we present an overview of competition law and IP law in the United States, Canada, Japan, and the European Union. We then provide a comprehensive analysis of the laws reflecting the interface between intellectual property and competition law in these four countries, with the objective of identifying major similarities and differences of policy treatment. As in the economic review, the analysis focuses on licensing arrangements for IPRs such as tying, exclusive restrictions, patent pooling, and cross-licensing. We begin our discussion by analyzing the situation in the United States since antitrust laws have existed for a much longer period there than in Japan and the European Union. In addition, the U.S. approach is often replicated by other nations.

4.1 The United States

⁵⁰ See U.S. Department of Justice and Federal Trade Commission, *Antitrust Guidelines for the Licensing of Intellectual Property*, April 6, 1995, and the Competition Bureau of Canada, *Intellectual Property Enforcement Guidelines*, June 15, 2000, and European Commission, *Block Exemption Regarding Technology Transfer*, January 31, 1996

⁵¹ See Japanese Fair Trade Commission, *Guidelines for Patent and Know-how Licensing Agreement*, July 30, 1999

The Sherman Act was enacted in 1890. At that time, antitrust did not have specific provisions to resolve disputes raised by intellectual property. Intellectual property was unfettered and regarded as the prerogatives of the IP holder.⁵² In the 1920s, the Courts took the IP legislation into consideration. In the 1970s, the Antitrust Division of the Department of Justice (DOJ) listed nine specified licensing practices such as tie-in, resale price maintenance, and exclusive grantbacks, which were viewed as anticompetitive restraints of trade, and attracted scrutiny of the DOJ. These nine licensing practices soon came to be known as the “Nine No-No’s” which had profound influences on future policy treatment. According to Tom and Newberg (1998), the “Nine No-No’s” treated antitrust and intellectual property as separate spheres. At that time, however, the DOJ did not recognize that the specific licensing practices listed in the “Nine No-No’s” had procompetitive effects except the adverse effects upon competition that may lead to antitrust trouble. In the early 1980s, the DOJ began to question this per se illegal approach regarding IP underlying the “Nine No-No’s”. In 1988, the DOJ and the Federal Trade Commission released the Antitrust Enforcement Guidelines for International Operations.

In the modern period, the Sherman Act and the Clayton Act have some specific sections that can be applicable to the exercise of IPRs. Under Section 1, a wide range of business conducts are evaluated, including tying, exclusive dealing, and resale price maintenance.⁵³ Section 2 of the Sherman Act provides penalties for firms that

⁵² Tom & Newberg, 1998

⁵³ DOJ & FTC, 1995

adopt unilateral behaviors in order to monopolize the market.⁵⁴ Sections 7 of the Clayton Act contain specific provisions regarding the business conducts that substantially "... lessen competition, or to tend to create a monopoly."⁵⁵ such as tying and exclusive dealing.⁵⁶

In addition to the antitrust laws, respectively in 1988 and 1995⁵⁷, the DOJ and the Federal Trade Commission (FTC) released two guidelines with respect to antitrust enforcement in the context of IP. The 1988 U.S. IP Guidelines are the predecessor of the 1995 U.S. IP Guidelines. The 1995 U.S. IP Guidelines shared three core principles with the 1988 U.S. IP Guidelines, which provide a foundation for the policy statements in the Guidelines. The 1995 U.S. IP Guidelines recognized that 1) procompetitive nature exists within licensing arrangements, 2) there is no presumption that intellectual property necessarily creates market power, and 3) intellectual property is comparable to other forms of intellectual property.⁵⁸ The 1995 U.S. Guidelines provide an antitrust "safe zone" for intellectual property licensing arrangements where the licensor and licensees together account for no more than 20 per cent of each relevant market significantly affected by the restraint. Per se illegality, which was the usual tool to justify the violation of antitrust laws presented in the "Nine No-No's", was replaced by the "rule-of-reason" analysis in the U.S. IP Guidelines. Under the rule-of-reason approach, the licensing arrangements involving

⁵⁴ Church & Ware, 2000

⁵⁵ DOJ, 2001, p.16

⁵⁶ Gallini & Trebilcock, 1998

⁵⁷ DOJ & FTC, November 10, 1988, *Antitrust Enforcement Guidelines for International Operations*, hereinafter "The 1988 U.S. IP Guidelines", and April 2, 1995, *Antitrust Guidelines for the Licensing of Intellectual Property*, hereinafter "The 1995 U.S. IP Guidelines".

⁵⁸ DOJ & FTC, 1995, p.2

IP may have procompetitive effects, thus they should not be prohibited under antitrust laws. Therefore, in contrast to the “Nine No-No’s”, the approach under the U.S. Guidelines focuses on the competitive effects of licensing arrangements involving IP depending on their factual market circumstances. The rule-of-reason approach is consistent with the framework for competition policy in the context of IPRs that was recommended by Gallini and Trebilcock (1998). According to the 1995 U.S. IP Guidelines, antitrust concerns arise only when a licensing arrangement harms competition among firms.

Antitrust policy for licensing agreement

Tying- Legal precedents in the U.S. treated tying of two separate goods as per se illegal without examining actual circumstances or economic effects. In fact, the DOJ considered that tying had adverse effects on competition, such as foreclosing the market of tied products, and eliminating the variety of products in the market. According to Baxter and Kessler (1998), the early attitude of the antitrust law towards tying was hostile. This hostility regarding tying lasted until the DOJ realized that there were significant procompetitive effects to tying, which acted as defenses of allegations of illegal tying.

The 1995 U.S. IP Guidelines addressed concerns associated with tying in the context of IP licensing. The DOJ and the FTC consider both the anticompetitive effects and the efficiencies attributable to a tying case, i.e. a tying arrangement involving IP will be evaluated under the rule-of-reason analysis. The DOJ and the

FTC measure whether a tying arrangement violates antitrust laws in three respects:

*“If (1) the seller has market power in the tying product, (2) the arrangement has an adverse effect on competition in the relevant market for the tied product, and (3) efficiency justifications for the arrangement do not outweigh the anticompetitive effects.”*⁵⁹

This justification of tying is required to show the market power both in the tying-good market and the tied-good market.

Exclusive restrictions- In “Nine No-No’s”, exclusive grantbacks and exclusive dealing were treated as per se illegal.⁶⁰ Under the 1995 U.S. IP Guidelines, exclusive restrictions are addressed in sections 4.1.2 and 5.4, and specifically concern exclusive dealing. A licensing arrangement will not automatically raise antitrust concerns under the rule-of-reason analysis. Generally, an exclusive license involving IP may raise antitrust concerns only if the licensees themselves, or the licensor and its licensees, are in a horizontal relationship since this conduct may be viewed as a merger.

Exclusive territories may be permitted under rule-of-reason analysis. Open-territory exclusivity, and not closed-territory exclusivity, applies to the domestic context under the exhaustion principle. In addition, the exhaustion principle has been extended towards parallel imports from foreign countries.⁶¹

Exclusive dealing is in general to be evaluated under the rule-of-reason analysis. According to the 1995 U.S. IP Guidelines, the agency must examine the degree of foreclosure, the duration of the exclusive-dealing arrangement, and the market condition in order to evaluate the extent to which an exclusive dealing arrangement

⁵⁹ DOJ & FTC, 1995, p.26

⁶⁰ See Tom & Newberg, 1998, item five and item six on the “Nine No-No’s” list.

⁶¹ Anderson, Feuer, Rivard & Ronayne, 1998

has procompetitive and anticompetitive effects.

In general, the antitrust enforcement towards exclusive restrictions in the United States is much more lenient than the past.

Patent-pooling and cross-licensing- The 1995 U.S. IP Guidelines recognize that pooling and cross-licensing arrangements are often competitive by promoting the dissemination of technology although they may have anticompetitive effects in certain circumstances. Patent pooling and cross-licensing arrangements raise antitrust concerns when the parties to the agreement are actual or likely potential competitors. The terms and conditions on which the parties to the agreement deal with each other and with entrants also raise antitrust concerns. Importantly, the Guidelines scrutinize pooling and cross-licensing arrangements involving IP with horizontal competitors,⁶² especially when these arrangements involve a large proportion of the market share, and have incentives to foreclose the market, suppress innovation,⁶³ and merger.

4.2 Canada

The first Canadian competition legislation was enacted in 1889. It was designed to prevent firms from forming agreements in restraints of trade. During the following century, the legislation has evolved significantly. Prior to the 1980s, the exercise of intellectual property was viewed with caution in Canada.⁶⁴ As the “Nine No-No’s” of the United States in the 1970s, IPRs were widely viewed as anticompetitive restraints of trade. In the 1980s, IPRs were increasingly considered to have procompetitive

⁶² DOJ & FTC, 1995, p.28

⁶³ Gallini & Trebilcock, 1998

⁶⁴ Anderson, Khosla & Ronayne, 1991

effects in the market. In 1986, the Combines Investigation Act was amended and renamed the Competition Act.

The Competition Act contains several specific provisions relating to IP, such as sections 32, 45, 61, 77, 78, 79 and 86.⁶⁵ In particular, section 32 of the Competition Act ensures that the business conducts involving IP fall within its scope. Moreover, section 32 allows the Attorney General of Canada to apply to the Federal Court for various remedial orders for the purpose of preventing any abuse of IP laws. Section 77 regulates licensing practices of IPRs, such as exclusive dealing, tied selling, and market restrictions. Section 78 and 79 are related to the abuse of dominant position. In addition, the Competition Act provides several exemptions for the licensing agreements involving IP that are declared to violate these sections. First, subsection 77 (4) presented that if the market restrictions exist only for a reasonable period of time for competitive reasons, the Competition Tribunal shall not make an order for violation of section 77. It is also applicable when a tied selling is justified on the basis of the technological relationship between or among the products to which it applies. Second, subsection 79 (5) provides an exemption from the abuse of dominance in sections 78 and 79 of the Competition Act if the acts engage in pursuant only to the exercise of any right or enjoyment of any interest derived under the IP laws, such as the Copyright Act, the Industrial design, and the Patent Act. However, this should not be viewed as a blanket exemption. If the exercise of the IPRs goes beyond the scopes contemplated in the IP laws, violation of sections 78 and 79 may occur.⁶⁶

⁶⁵ See Nozick, 2003

⁶⁶ Rey & Winter, 1998

In 2000, the Competition Bureau released the Intellectual Property Enforcement Guidelines.⁶⁷ The 2000 Canada IP Guidelines recognized that the enforcement of the Competition Act should respect the basic property rights of the IP holders and that intellectual properties are not automatically presumed anticompetitive. “The mere exercise of an IP right”⁶⁸ does not raise antitrust concerns. To conclude whether the IP holders possess market power, the Competition Bureau will firstly define the relevant market and then scrutinize the concentration, barriers to entry and technological changes of the business conducts involving IP. The Bureau only intervenes for IP-related business conducts that have anticompetitive effects, which create, enhance or maintain market power.⁶⁹

Under the 2000 Canada IP Guidelines, several provisions involving IP fall into the category of the reviewable matters, which the Competition Bureau considers significantly procompetitive although in some circumstances substantially anticompetitive, such as section 77 (exclusive dealing, tied selling and market restrictions) and 79 (abuse of dominant position) of the Competition Act.⁷⁰ These principles imply that the application of the Competition Act to intellectual property is under the rule-of-reason approach.

Competition policy for licensing agreements

Tying- There are not too many legal precedents relating to tying agreements

⁶⁷ Hereinafter “the 2000 Canada IP Guidelines”.

⁶⁸ The Competition Bureau, 2000, p.7, The Bureau views an IP holder’s use or non-use of the IP as being the “mere exercise of an IP right”.

⁶⁹ The Competition Bureau, 2000

⁷⁰ Ibid.

involving IP in Canada. The existing cases show that the competition treatments regarding tying involving IP in Canada are quite mild.⁷¹ Tying agreements fall within the scope of section 77 of the Competition Act, which is under the reviewable matters. The Competition Bureau usually considers the procompetitive effects of the tying agreements relating IP.

Under subsection 77 (1) of the Competition Act, tying agreements can substantially lessen competition because tying agreements are likely to induce a barrier to entry or impede the expansion of other firms. The Competition Tribunal may make an order to prohibiting such tying agreements in order to overcome these anticompetitive effects. However, subsection 77 (4) (b) addresses that if the tying agreements are reasonably indispensable for the technological relationship between or among the parties of the agreements then no order or limitation on application of the order is to be made. If the tying agreements involving IP are not the mere exercise of IP rights, they will be covered by section 32 and create a violation of the Competition Act.

Exclusive restrictions- Exclusive restrictions in IP licensing agreements are covered by several sections of the Competition Act, such as sections 32, 77, and 79. According to the 2000 Canada IP Guidelines, the unilateral exercises of the IPRs to exclude do not violate the general provisions of the Competition Act. Section 77 and 79 are included in the reviewable matters.

The Competition Bureau is likely to examine the exclusive licensing under

⁷¹ Gallini & Trebilcock, 1998

section 79 of the Competition Act,⁷² which is included in the reviewable matters. According to the examples given in the 2000 Canada IP Guidelines, if the IP holder is not a manufacturer of the products that are related to his IP, he can exclusively grant license to manufactures who do not have an excessively large market share. The intellectual property is the indispensable input to the manufacturers. In this case, the technology license develops the production, thereby enhancing competition without in any way limiting the ability of other manufactures. Thus, such exclusive licensing arrangement does not raise any competition issues.

Exclusive territories and exclusive dealing are both covered under section 77 of the Competition Act. In addition, the remedies available in section 32 can apply to them.⁷³ In general, open-territory exclusivity applies to domestic trade. Moreover, there are no legal barriers to domestic territorial restrictions in Canada. Regarding the exclusive dealing agreements involving IP, the Competition Bureau would both determine whether such agreement create barriers to prevent competitors from supplying products to customers in Canada and whether there are efficiency reasons for such agreements.⁷⁴

Patent-pooling and cross-licensing- The Competition Bureau could examine the patent-pooling agreements under section 45 (conspiracy provision) of the Competition Act because sometimes such agreements are treated as collusive agreements to eliminate competition.⁷⁵ However, the Bureau would consider the procompetitive

⁷² The Competition Bureau, 2000, Example 3.1

⁷³ See Nozick, 2003

⁷⁴ The Competition Bureau, 2000, Example 4

⁷⁵ Ibid. Example 6

effects of the patent-pooling agreements, such as clearing blocking patents and integrating complementary technologies.⁷⁶

4.3 Japan

The Antimonopoly Act (AMA) was enacted in 1947. The enforcement agency of AMA is the Japanese Fair Trade Commission (JFTC). The original AMA was modeled with an effort to incorporate the essential features of the United States antitrust laws.⁷⁷ Private monopolization, unreasonable restraints of trade and unfair business practices are prohibited under the AMA. Section 21 of the AMA gives exemptions to business conducts related to IP.

“The provisions of this Act shall not apply to such acts recognizable as the exercise of rights under the Copyright Act, the Patent Act, the Utility Model Act, the Design Act or the Trademark Act.”⁷⁸

However, if the exercise of rights under IP laws is considered to deviate from or to run counter to the purposes of the IPR, it is possible that the JFTC will also apply to such acts, since it would no longer be deemed an “act recognizable as the exercise of rights”.⁷⁹

After the United States and the European Union released their intellectual property guidelines, in 1999, the JFTC issued Guidelines for Patent and Know-how Licensing Agreements.⁸⁰ The 1999 JFTC Guidelines recognized that the know-how is intellectual property with a “confidential nature”. The implication of the 1999 JFTC Guidelines is similar to the U.S. Guidelines. The 1999 JFTC IP Guidelines state that it

⁷⁶ Ibid., Example 6

⁷⁷ Matsushita & Davis, 1990

⁷⁸ JFTC, 2003

⁷⁹ JFTC, 1999, Part 2.2

⁸⁰ Hereinafter “the 1999 JFTC Guidelines”.

is important to consider procompetitive effects and ensure that transactions do not affect fair competition when the AMA applies to transactions involving IP. If the “exercise of rights” has the effect of encouraging innovation, is not subject to the AMA and should not constitute a violation of the AMA. In accordance with part 3 or part 4 of the JFTC IP Guidelines, after evaluating the business conducts involving IP in light of the provisions of section 23 of the AMA, and the conducts are not the “exercise of right”, the conducts will then be evaluated to determine whether they fall under unreasonable restraints of trade, private monopolization or unfair trade practices.

Antimonopoly law for licensing agreements

Tying- Article 9 (2) of the AMA defines unreasonable restrictions, which are imposed on the other party to a transaction, as “unfair trade practices”. Thus, unreasonable tying is an unfair business practice under the AMA.

A tying arrangement involving IP is not automatically illegal in principle unless the licensee is forced into purchasing the tied product. In addition, a package licensing involving IP that imposes obligation on licensees and a patent licensing agreement that requires a licensee to use a trademark designated by the licensor for using the patented products may have adverse effects on competition.⁸¹ The extent to which tying arrangements involving IP impede fair competition will be determined in light of their effects on competition. If a tying agreement involving IP creates significant

⁸¹ JFTC, 1999

effects to impede fair competition, it will fall within the category of unfair trade practice and will be in violation of the AMA.⁸²

Exclusive restrictions- In the IP licensing agreements, the licensor may impose a series of restrictions on the licensees, which can be viewed as “exploitation activities”⁸³ of the IP. Exclusive restrictions and other types of unreasonable restrictions are designated as unfair trade business under the AMA. Article 2 (9) paragraph (iv) of the AMA provides that trading with another party on certain conditions that will unreasonably restrict the business activities of such party is an unfair business practice. The 1999 JFTC Guidelines recognize that exclusive restrictions do not necessarily pose a problem under the AMA. However, it is possible that exclusive restrictions may be part of a conduct that falls under unreasonable restraint of trade. The antitrust concerns of the JFTC regarding exclusive restrictions are based on rule-of-reason analysis. Generally, both the antitrust principle and the treatment of the JFTC towards exclusive restrictions involving IP are similar to the approach of the DOJ and the FTC in the United States.

Patent-pooling and cross-licensing- The 1999 JFTC IP Guidelines are applicable to patent-pooling and cross-licensing. Both patent-pooling and cross-licensing are considered to have procompetitive effects by allowing the reciprocal use of patents. However, patent-pooling and cross-licensing are used to impose mutual restrictions on business activities, such as the sales price, sales volume, and sales territory, which may induce an examination of unreasonable restraint of trade. The mutual restrictions

⁸² JFTC, 1999

⁸³ Arai, 2002, p. 597

imposed on the licensees without any justifiable reasons will be illegal under the AMA if these arrangements significantly impede competition.⁸⁴

4.4 The European Union

The European Union (EU) is comprised of fifteen independent states. Thus the EU is not a single market, which is the most remarkable distinction existing between the EU and the U.S. and Japan. The primary goal of the European Community (EC) law is to integrate national markets in order to establish a common market and preserve a competitive market structure without the internal frontiers.⁸⁵

In Europe, national and Community laws coexist. The Commission is in charge of supervising and monitoring the observance of competition policy within the Community. The Community competition laws take precedence over national IP laws. If conflict exists between IPRs and competition law, regularly, the exercise of IPRs must be deferred to the competition law.⁸⁶ In addition, according to Govaere (1996), harmonizing national IP laws is a better way to eliminate distortions posed to intra-Community trade by different member states. However, interests of individual nations constitute significant obstacles to harmonization since member states do not want to give up their national benefits on the matter in favour of the Community.⁸⁷

Under the EC law, the balance between competition law and IPRs has been controlled by the EC Treaty. In fact, the EC Treaty does not mention the word

⁸⁴ JFTC, 1999

⁸⁵ Govaere, 1996, para. 3.01

⁸⁶ Anderman, 2002

⁸⁷ Govaere, 1996, para. 3.17

“intellectual property”. The Treaty uses the term “industrial property rights” instead. The balance between IPRs and EC competition law is governed by the framework of articles 81 and 82 of the Treaty.⁸⁸ Article 81 (1) regulates all agreements made between more than one independent undertakings that have the object or effect of preventing, restricting or distorting competition in the common market. Most licensing agreements of IP, such as tie-ins, exclusive restrictions and predatory pricing, fall within its scope.⁸⁹ However, an agreement that falls into article 81 (1) can be declared inapplicable if it contributes to promote technical or economic progress and does not create significant market power to impede competition in the common market. Such an exemption can be obtained either by the Commission issuing an individual decision exempting the particular agreement or by the block exemption. The EU Commission issued several block exemptions for patent licensing, R&D agreements, know-how licenses, and technology transfer, which identify business conducts exempted under article 81 (3).

In 1996, the EC issued Technology Transfer Block Exemption Regulation (TTBE), which presents a framework for IP licensing in the EU. The TTBE provides exemptions only to pure patent licenses, pure know-how licenses and mixed patent-know license. One of the remarkable features of TTBE is that it treats territorial restrictions quite strictly, mostly because the political framework within the EC is unique. In general, the TTBE imposes detailed limitations on intellectual

⁸⁸ EC, 1996

⁸⁹ Ibid.

property by the EC competition law.⁹⁰ The IPRs licensing agreements have to conform strictly to the detailed requirements of the TTBE, otherwise, these agreements will not be considered legal. The TTBE does not emphasize that licensing can often be procompetitive. However, the updated block exemption regulations are expected to recognize the procompetitive effects of the licensing agreements involving IP and become more flexible, which would bring the EU policy closer to U.S. approach to licensing arrangements.⁹¹

Article 82 regulates the conducts of undertakings, which have already achieved a dominant position in a market and do not impede fair competition. A range of abuses of dominant undertakings relevant to IPRs such as tie-in, predatory pricing, price discrimination, and refusal to license are covered by this article. These two legislative provisions, article 81 and 82, are enforced by the Directorate General Competition of the European Commission.

Competition law for licensing agreements

Tying- Tying clauses in licensing agreements are illegal under article 81 (1) of the EC Treaty. Moreover, exemptions are rarely granted for the tying agreements involving IP under either article 81 (3) or the block exemptions.⁹² The tying arrangements are allowed only if there are no alternative methods for the licensee to acquire the technology. For the design of future policy treatment of tying involving IP, many European legal and economic professionals commonly still consider that tying

⁹⁰ Anderman, 2002

⁹¹ EC, 2002

⁹² Gallini & Trebilcock, 1998

clauses in licensing agreements are less worthy of exemption, especially when the R&D are in unconnected fields,⁹³ although the revision of the TTBE is expected to become more lenient and user-friendly to licensing restrictions.

Exclusive restrictions- Exclusive agreements may be illegal under article 81 (1) of the EC Treaty. Unlike the tying clause, exclusive agreements have usually been exempted under article 81 (3) because exclusivity can be used to preserve incentives to innovate. In addition, the TTBE does not specifically cover exclusivity arrangements except territory restrictions.

Within the scope of exclusive restrictions involving IP, the territory restrictions in the EU have received substantial attention because of the characteristics of the market and the political framework in the EU. The protection of parallel imports is contained in the articles of the Treaty if the imports originate in an EU member state. Moreover, the exhaustion principle applies within the EC, in which once the IPR-protected products have been placed on the market by the IPR owner or with his consent, they cannot prevent further movement of those products within the EU member states.⁹⁴ It is well recognized in Community law that market integration is a matter of concern. However, the territorial restrictions involving IP conflict with market integration. The EC then adopt a strict treatment to territory market restrictions. Close-territories are prohibited in the EC. The TTBE asserts that any licensing agreement that might otherwise be exempted may still be scrutinized by the Commission if the licensee's market share in the licensed territory exceeds 40 per cent.

⁹³ EC, 2002

⁹⁴ Tritton, 2002, para. 7-019

Moreover, if the national IP laws of individual EU member states restrain the EU imports, Community competition laws will take precedence over national intellectual property laws.⁹⁵

Patent-pool and cross-licensing- Patent-pool and cross-licensing fall within the scope of article 81 (1) of the EC Treaty. And the TTBE does not apply to agreements between the members of a patent or know-how pool which relate to the pooled technologies.⁹⁶ Patent pooling and other forms of multiparty licensing agreements may create a barrier to entry and raise prices above their competitive level. In contrast, cross-licensing may be allowed if it has been judged to have significant procompetitive effects by the Commission.⁹⁷

4.5 Comparative Analysis

We provided an overview of the competition treatments regarding IP in the United States, Canada, Japan, and the European Union. We firstly presented the experience of the United States. The 1988 U.S. Guidelines provide a sophisticated analysis of the relationship between intellectual property and antitrust law. The three fundamental principles underlying the 1995 U.S. IP Guidelines represent a greater scrutiny of IP licenses. The DOJ does not consider that market power is necessarily conferred by intellectual property, and adheres to the view that licensing arrangements involving IP may have significant procompetitive effects. The antitrust laws of the U.S. are based on comparing economic benefits and costs. Restraints in IP licensing

⁹⁵ Anderman, 1998, 5.3.1 & 5.3.2

⁹⁶ EC, 1996, Article 5

⁹⁷ Gallini & Trebilcock, 1998

arrangements are evaluated under the-rule of-reason analysis.

The Competition Act in Canada includes several specific sections relating to IP. It also provides some exemptions for the business conducts involving IP under specific circumstances. Moreover, the 2000 Canada IP Guidelines figured out that IP-related licensing agreements, such as tying, exclusive restrictions, patent pools and cross-licensing are covered by the reviewable matters in which the procompetitive effects of these licensing agreements are considered. In general, the competition enforcement towards IP is quite mild in Canada.

The U.S. regulatory model is closely followed by Japan. The 1999 JFTC IP Guidelines are similar to the United States IP Guidelines. This contributes to explaining the relationship between IP and the AMA by focusing on the analysis of the “exercise of rights” under the rule-of-reason approach.

The European Union laws are quite different. First, the EU is not a single market, but consists of fifteen independent nations. The primary goal of the EC is market integration. Sometimes, conflicts of interest exist among individual nations and the Community. The conflict comes partly from the constitutional framework because the EC competition law has a central place in the Treaty whereas IPRs are still mainly based on national laws. Second, historically, the Commission did not adopt the sophisticated rule-of-reason analysis towards IP licensing. The EU tends to prohibit any IP licensing arrangements that may limit intra-Community trade among the member states. As Anderman (2002, p. 306) said, the EC competition law acts as “a second tier” of regulation of the exercise of IPRs. It has been suggested that the EC

should have more sophisticated reasoning applied to the assessment of IP licensing agreements, more along the lines of the method used in the United States. However, in the short term, it will be difficult to move the EC legal and economic professions away from their respective historical views.

5. Summary and conclusion

A set of issues related to the interaction between competition policy and IPRs has been discussed in this paper.

As pointed out above, IPRs and competition laws act in opposite directions. IPRs stimulate innovators engaging in R&D and facilitate the diffusion of new technologies. However, they also facilitate the exercise of market power. Competition policy is used to contain market power and promote the efficient diffusion of technology. Thus, the challenge for policy makers and competition policy is to balance the interaction between intellectual property and competition policy to achieve an efficient allocation of resources. The main objective of the competition policy is to prevent the anticompetitive use of intellectual property while respecting the basic legal property rights of IP holders, which ensures the incentives of innovation, the diffusion of technology, and competition in the market.

In the first section, we overviewed the basic issues about intellectual property and competition policy and the relationship between them. Then, in section 2, we examined competition policy towards particular licensing restrictions in the second section. We concluded that certain licensing restrictions should be scrutinized under competition policy. While licensing restrictions may increase incentives to innovate, they need to be carefully watched.

In section 3, we considered the interaction between competition policy and the protection of intellectual rights in the context of network industries. We discussed several economic features arising in network industries, such as network effects, the

installed base, as well as standards and compatibility. Those economic features, especially network effects, reinforce the protection of IP in a network industry. Thus, the competition authority is required to adopt a special treatment to mitigate the excessive market power conferred by IPRs.

In section 4, we provided a comparative analysis of competition policy towards intellectual property in the United States, Canada, Japan, and the European Union. The United States adopts the rule-of-reason analysis as the fundamental tool, which measures the economic benefits and costs of IP licensing agreements. Canada considers the procompetitive effects of IP-related licensing agreements under the reviewable matters. The antimonopoly treatment towards IP in Japan is quite similar to that of the United States. This contrasts with the EU, which is more “hostile” towards intellectual property. As explained in the body of the text, this hostility may last for a long time due to historical and political reasons.

Bibliography

- Anderman, Steve, (2002) "EC Competition Law and Intellectual Property Rights in the New Economy", *The Antitrust Bulletin*, Summer-Fall, 285-308
- Anderman, Steven D., (1998) *EC Competition Law and Intellectual Property Rights, The Regulation of Innovation*, Oxford University Press, Part II & III
- Anderson, Robert D., Feuer, Paul M., Rivard, Brian A., and Ronayne Mark F., (1998), "Intellectual Property Rights and International Market Segmentation in the North American Free Trade Area", *Competition Policy and Intellectual Property Rights in the Knowledge-based Economy*, edited by Anderson, Robert D. and Gallini, Nancy T., University of Calgary Press
- Anderson, Robert D., Khosla, S.D., and Ronayne, M. F., (1991) "The Competition Policy Treatment of Intellectual Property Rights in Canada: Retrospect and Prospect", *Canadian Competition Law and Policy at the Centenary*, edited by Khemani, R.S. and Stanbury W.T., The Institute for Research and Public Policy
- Arai, Koki, (2001) "Recent Development of Japanese Antitrust Policy regarding Intellectual Property Rights", *The Antitrust Bulletin*, Fall, 591-609
-
- Balto, David and Pitofsky, Robert, (1998) "Antitrust and High-tech Industries: the New Challenge", *The Antitrust Bulletin*, Fall-Winter, 583-607
- Baxer, William F. and Kessler, Daniel P. (1998) "The Law and Economics of Tying Arrangements: Lessons for the Competition Policy Treatment of Intellectual Property", *Competition Policy and Intellectual Property Rights in the Knowledge-based Economy*, edited by Anderson, Robert D. and Gallini, Nancy T., University of Calgary Press
- Beard, T. Randolph and Kaserman, David L., (2002) "Patent Thickets, Cross-licensing, and Antitrust", *The Antitrust Bulletin*, Summer-Fall, 345-368
- Bernheim, B. Douglas and Winston, Michael D., (1998) "Exclusive Dealing", *The Journal of Political Economy*, Vol. 106, No.1, February, 64-103
- Besen, Stanley M. and Farrell, Joseph, (1994) "Choosing How To Compete: Strategies and Tactics in Standardizations", *The Journal of Economics Perspectives*, Vol. 8, No. 2, Spring, 117-131
- Church, Jeffrey and Ware, Roger, (1998) "Network Industries, Intellectual Property

- Rights and Competition Policy”, *Competition Policy and Intellectual Property Rights in the Knowledge-based Economy*, edited by Anderson, Robert D. and Gallini, Nancy T., University of Calgary Press
- Church, Jeffrey and Ware, Roger, (2000), *Industrial Organization: A Strategic Approach*, Irwin McGraw-Hill
- Dranove, David and Gandal, Neil, (2003) “The DVD vs. DIVX Standards War: Empirical Evidence of Network Effects and Preannouncement Effects”, The forthcoming *Journal of Economics and Management Strategy*
- Dunford, Richard, (1987) “The Suppression of Technology as a Strategy for Controlling Resource Dependence”, *Administrative Science Quarterly*, Vol. 32, No.4, December, 512-525
- Eswaran, Mukesh, (1994) “Cross-licensing of Competing Patents as a Facilitating Device”, *The Canadian Journal of Economics*, Vol. 27, No. 3. August, 689-708
- Farrell, Joseph and Katz, Michael L., (1998) “The Effects of Antitrust and Intellectual Property Law on Compatibility and Innovation”, *The Antitrust Bulletin*, Fall-Winter, 609-650
- Gallini, Nancy T. and Trebilcock, Michael J., (1998) “Intellectual Property Rights and Competition Policy: a Framework for the Analysis of Economic and Legal Issues”, *Competition Policy and Intellectual Property Rights in the Knowledge-based Economy*, edited by Anderson, Robert D. and Gallini, Nancy T., University of Calgary Press
- Gilbert, Richard and Shapiro, Carl (1997) “Antitrust Issues in the Licensing of Intellectual Property: The Nine No-No’s Meet the Nineties”, *Brookings Papers on Economic Activity. Microeconomics*, Volume 1997, 283-336
- Govaere, Inge, (1996) *The Use and Abuse of Intellectual Property Rights in E.C. Law*, London, Sweet & Maxwell Press
- Herndon, Jill Boylston, (2002) “Intellectual Property, Antitrust, and the Economics of Aftermarkets”, *The Antitrust Bulletin*, Summer, 309-344
- Japanese Fair Trade Commission, (2003) “Antimonopoly Act”, <http://www2.jftc.go.jp/e-page/legislation/antimonopoly2.html#chap6>
- Japanese Fair Trade Commission, (1999) “Guidelines for Patent and Know-how Licensing Agreements under the Antimonopoly Act”, <http://www2.jftc.go.jp/e-page/guideli/patent99.htm>

- Matsushita, Mitsuo with Davis John D., (1990) *Introduction to Japanese Antimonopoly Law*, Yuhikaku Publishing Co. Ltd., Chapter 5-B, D, E, F
- Nozick, Robert S., (2003) "The 2003 Annotated Competition Act", Carswell A Thomson Co.
- Rey, Patrick and Winter, Ralph A., (1998) "Exclusivity Restrictions and Intellectual Property", *Competition Policy and Intellectual Property Rights in the Knowledge-based Economy*, edited by Anderson, Robert D. and Gallini, Nancy T., University of Calgary Press
- Rubinfeld, Daniel L., (1998) "Antitrust Enforcement in Dynamic Network Industries", *The Antitrust Bulletin*, Fall-Winter, 859-882
- Schmalensee, Richard, (2000) "Antitrust Issues in Schumpeterian Industries", *American Economic Review*. Vol. 90 (2), May, 192-96
- The Commission of the European Communities, (1996) "Commission Regulation (EC) No 240/96 of 31 January 1996 on the application of Article 85 (3) of the Treaty to certain categories of technology transfer agreements", http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en&numdoc=31996R0240&model=guichett
- The Commission of the European Communities, (2002) "Submissions on the Transfer of Technology Block Exemption Review Report", http://europa.eu.int/comm/competition/antitrust/technology_transfer/summary_of_comments.pdf
- The Competition Bureau, Government of Canada, (2000) *Intellectual Property Enforcement Guidelines*
- Tom, Willard K. and Newberg, Joshua A., (1998) "U.S. Enforcement Approaches to the Antitrust-Intellectual Property Interface", *Competition Policy and Intellectual Property Rights in the Knowledge-based Economy*, edited by Anderson, Robert D. and Gallini, Nancy T., University of Calgary Press
- Tritton, Guy, (2002) *Intellectual Property in Europe*, London, Sweet and Maxwell Press, Chapter 7,8,11, 12
- U.S. Department of Justice and the Federal Trade Commission, (1988) *Antitrust enforcement guidelines for international operations*, U.S. Government Printing Office, Washington D.C.
- U.S. Department of Justice and the Federal Trade Commission, (1995) *Antitrust*

Guidelines for the Licensing of Intellectual Property,
<http://www.usdoj.gov/atr/public/guidelines/ipguide.pdf>

U.S. Department of Justice and the Federal Trade Commission, (2001) *Statutory Provisions and Guidelines of the Antitrust Divisions*,
<http://www.usdoj.gov/atr/foia/divisionmanual/ch2.pdf>

Winston, Michael D., (1990) "Tying, Foreclosure, and Exclusion", *American Economic Review*, September 837-859