Licensing at the Crossroads of Antitrust and Intellectual Property: Choosing the Right Road

By Yee Wah Chin and Kathryn E. Walsh

It may come as a surprise to some that there are so many ways of violating the antitrust laws:

- *Granting an exclusive license.* There may be two types of antitrust concerns here. First, if the licensee has a portfolio of similar licenses, the exclusive license can result in the licensee's gaining a dominant market position. Second, if it is an exclusive license that is worth more than $50 million, counsel should evaluate whether it needs to be reported under the Hart-Scott-Rodino Act as an acquisition by the licensee.
- *Acquiring from others patents concentrated in one field.* The acquisition, non-use, and vigorous enforcement of patents with the intent to exclude competition may bring antitrust exposure.
- *Granting a cross-license.* The reasons for the cross-license are central to the question of antitrust exposure.
- *Granting a license, but only if another patent is licensed or another good or service is purchased by the licensee as part of the transaction*. The tying of one license to another license, good or service may constitute an antitrust violation.
- *An exclusive grant back when the licensee cannot license the improvements to others.* Counsel should carefully consider the scope of an exclusive grant back.
- *Restricting the terms under which a licensee sells products produced under license.* Resale restrictions, particularly those that relate to price, can create exposure under the antitrust laws.
- *Granting multiple licenses and allowing the licensees to have a say in who else gets a license for the technology.* A network of licenses that gives licensees the power to determine who else receives a license creates significant risk of a cartel among licensees facilitated by the licensor.
- *Participating in a patent pool*. The purpose, scope, and administration of the pool and processes to limit the flow of competitive data among pool members are important factors in an antitrust risk analysis.

This article reviews the general principles in the antitrust analysis of licenses of intellectual property rights and applies those principles to these situations, as well as to some other common types of licenses and license restrictions, in the context of practical counseling.

Overview

Historically, the view has been that there is an inherent conflict between intellectual property rights laws that grant "monopolies" and the antitrust laws that prohibit monopoly. An intellectual property right (IPR) was assumed to confer upon the holder some monopoly.

More recently, the IPR laws and the antitrust laws are increasingly viewed as complementary: Both value innovation, competition, and consumer welfare. The prevailing view is that the IPR laws do not necessarily confer monopolies but only the right to exclude others from the areas covered by the IPR. In actuality, most patents are never put into practice and do not convey any market power at all. Intellectual property rights are considered to be a form of personal property rights. When the holder of an IPR tries to extend its market power beyond the scope of the IPR, antitrust laws apply.

Antitrust analysis of transactions involving IPR is highly fact-specific, and counsel should analyze each scenario for antitrust risk. This is true even if no risks are immediately apparent or if a current transaction seems very similar to a past deal that had little risk.

General Principles

Licenses of intellectual property rights are generally considered pro-competitive. They often enable the licensor to exploit technology that the licensor controls but may not have the ability to develop or market, and provide the licensee with access to technology that it otherwise might not have but could bring to market with its financing, manufacturing, and marketing capabilities. The Antitrust Division of the Department of Justice (DOJ) and the Federal Trade Commission (FTC) recognized in their 1995 Antitrust Guidelines for the Licensing of Intellectual Property (IP

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Guidelines)[1] that licenses might afford efficient exploitation of IPR and enable complements to come together to the benefit of consumers by lowering costs and speeding the introduction of new products and services. Therefore, the basic antitrust test for licenses is the rule of reason.

The enforcement agencies have also cautioned that the licenses must involve substantial IPR, however. The issue is whether the IPR is sufficiently substantial to be licensed and subject to any ancillary restraints contained in the license. The IPR that is the subject of the license must not be a pretext for an agreement that is in substance a restraint of trade. Thus, for example, in *United States v. Pilkington plc*,[2] the Antitrust Division investigated and obtained a consent decree settling allegations that the licenses there related to expired patents and trade secrets for the manufacture of flat glass and were but pretexts for allocating the worldwide market among competitors, preventing the use of competing technology and consolidating control of new technology through the use of grant-back obligations.

Counsel should closely scrutinize licenses among competitors to ensure that they do not enable competitors to allocate the market or limit output. Such "horizontal" market agreements are *per se* illegal. For example, in *United States v. The MathWorks, Inc.*,[3] MathWorks, Inc., and Wind River Systems, Inc., competed in the development and sale of software used by aerospace and automotive manufacturers to design and test dynamic control systems. They entered into agreements that gave MathWorks the exclusive worldwide right to price and sell Wind River's MATRIXx product for two years, transferred the customer support of MATRIXx to MathWorks, required Wind River to stop developing MATRIXx, and gave MathWorks the option to acquire MATRIXx in two years. The Department of Justice alleged that these agreements were *per se* illegal in that they allocated markets and fixed prices in violation of Section 1 of the Sherman Act. The agreements also allegedly unreasonably reduced competition by eliminating Wind River from the market. The government obtained the divestiture of MATRIXx to restore competition.[4]

Particular types of licenses may require more scrutiny than others, particular types of licensor-licensee combinations may need more review, and the relationships of the intellectual property rights involved could require careful consideration if more than one intellectual property is involved. Certain types of restrictions in licenses also need extra care.

One court has seemingly endorsed the position that a patent holder can impose onerous license conditions, such as mandatory cross-licenses and resolution of outstanding litigation, without antitrust exposure because a patent holder can after all refuse to license at all on any terms.[5] Nevertheless, the more prudent approach in counseling would be to view the position that license restrictions can all be justified by the simple existence of the IPR being licensed, as being "no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability."[6]

It is rare that trademark licenses raise the types of issues often seen with patent and copyright licenses. In one case, however, the Federal Trade Commission alleged that the parties to a trademark license agreement used the license as part of an agreement to allocate the world market in microcrystalline cellulose, and obtained a consent order.[7]

Guidelines

Consistent with the current view of IPR and antitrust, the Antitrust Division of the Department of Justice and the Federal Trade Commission in 1995 issued the IP Guidelines. These, and other guidelines issued by the federal antitrust enforcement agencies, provide good road maps to counseling.

The IP Guidelines apply to patent and copyright licenses, not to trademark licenses, which often have different competition implications. They outline the approach of the federal antitrust agencies in this area and apply to patent and copyright licenses the same antitrust principles used to analyze conduct relating to any other type of personal property.

In their guidelines, the agencies define not only traditional products and services markets that may be relevant in antitrust analyses[8] but also technology and innovation markets. "Technology markets" are markets in which companies compete in the licensing of intellectual property.

> Technology markets consist of the intellectual property that is licensed (the "licensed technology") and its close substitutes—that is, the technologies or goods that are close enough substitutes significantly to constrain the exercise of market power with respect to the intellectual property that is licensed.
>
> When rights to intellectual property are marketed separately from the products in which they are used, the Agencies may rely on technology markets to analyze . . . competitive effects. . . .[9]

"Innovation markets," sometimes called research and development or R&D markets, are defined by the agencies as markets in which firms compete in research and development. They explain in the IP Guidelines:

A licensing arrangement may have competitive

> effects on innovation that cannot be adequately addressed through the analysis of goods or technology markets. For example, the arrangement may affect the development of goods that do not yet exist. Alternatively the arrangement may affect the development of new or improved goods or processes in geographic markets where there is no actual or likely potential competition in the relevant goods.[10]

With respect to restrictive terms in licenses, the IP Guidelines provide a safety zone. The federal antitrust authorities will not challenge a restriction if it is not "facially anticompetitive" and therefore *per se* violative of the antitrust laws. Examples of this include price fixing and either (1) the parties collectively hold less than 20 percent of each of the markets that are affected by the restriction or (2) when the meaningful market share data is not available, there are at least four other independent competitors in the technology or innovation markets involved.

The 2000 Antitrust Guidelines for Collaborations among Competitors[11] cover collaborations generally, including those based on IPR and research and development. These guidelines provide a safe harbor when the innovation market involved has at least three independent competitors with the specialized assets or characteristics and the incentives to engage in R&D that is alternative to that of the collaboration.

Note that the guidelines are only indicators of the position of the federal enforcement agencies.[12] They are also not binding but only persuasive on the courts. There are other sources of antitrust challenges, such as private parties and state attorneys general, who may not agree with the approach of the guidelines. While the guidelines are generally consistent with the case precedents, there are some areas in which the guidelines take a different view of licenses than the judicial precedents might justify. Nonetheless, the various guidelines provide a good basis for analysis and counseling.

Key Questions

As in most antitrust counseling, the required analysis is fact-specific. The substance of the transaction, and not the form or the parties' labeling, is key. Therefore, in counseling clients regarding the antitrust pitfalls in licensing intellectual property rights, there are several key factual questions. The application of antitrust principles to the answers to these questions will determine the appropriate antitrust advice.

The first area to review is the business context of the transaction and the business reasons for the deal. What is the current relationship of the parties? Are they actual or potential competitors in the area of the license, or do they hold competing technology? If the parties are actual or potential competitors, then the prospective licensee may already have technology that competes with or substitutes for the technology that is being licensed. A license between firms with competing technology, of some of that technology, would be considered horizontal. A license that is considered a horizontal arrangement requires closer scrutiny than a vertical arrangement between parties on different levels of a distribution chain. Counsel should closely review a horizontal agreement to determine whether there is an impermissible restraint between competitors.

If the licensee lacks the capability that the license will provide, then the license is considered a vertical license between supplier and buyer and will generally be subject to more lenient examination, even if the parties will be competing in the area of the license. There is much less concern about anticompetitive effects resulting from licenses that do not interfere with competition and that would probably have taken place absent the license. Vertical licenses generally would not affect any competition that would have existed absent the license. In vertical licenses, the concerns are that the license may foreclose access to a necessary input or a distribution channel, raise rivals' costs, or may facilitate coordination among competitors.

When the parties have technologies that are blocking, so that one party cannot exploit its technology without infringing on the rights of the other party, the technologies are often competing. Yet each of the technologies may provide a capability that the other lacks. An agreement between the parties has both horizontal and vertical features. A key factor to consider would be whether the license is necessary to resolve a technology impasse and has only the scope needed for that resolution, or whether it is a pretext for an allocation of market between competitors.

Another way of looking at the issue is to consider whether a licensee would need all the IPR involved in order to be technically, economically, and/or legally viable. The parties may need a package license of basic and improvement patents held by different entities to ensure the viability of a state-of-the-art product. Access to only one of several blocking or complementary patents will not enable the holder to exploit the technology. When there is such a clear business need for the license, there is less likelihood of antitrust issues arising from the grant of the license. On the other hand, if the business reason for the license is to avoid ruinous competition or stabilize the market, antitrust questions are more likely.

Therefore, what is the arrangement that the parties are contemplating? What are the business goals that they are seeking to achieve by this arrangement, and how will the arrangement help them achieve those goals? How do the parties contemplate the relationship actually working? The nature of the IPR involved, and the relationships among the IPRs, if more than one IPR is involved, are important, along with the business reasons for including the particular IPRs in the license. In answering these questions, the parties should review the record. For example, what do the memoranda, PowerPoint presentations, and emails of the business persons involved in the transaction indicate?

Once the parties have considered these questions, there is a context in which to analyze the situation. In particular, the business needs for the arrangement and its terms may help demonstrate the reasonableness of the transaction.

The bottom line is the competitive impact of the proposed transaction. Who are the competitors that may be affected by the deal? Are the parties actual or potential competitors without the license relationship? Would the deal result in the elimination of an actual or potential competitor as an independent market participant, or would any market participant be excluded or handicapped as a result? What might be the impact on prices and outputs in the markets involved in the transaction? What might be the impact on incentives to innovate? What might happen to the next generation of products? Who are developing the next generation of products, and what might be the impact of the license on their ability or motivation to continue development of the next generation? What might be the impact on the parties' market positions? Might the license help entrench an already dominant market player? Would the relationship create opportunities for collusion?

In answering these questions, it is useful to identify the markets that the transaction may affect. What products, services, or geographic areas will the transaction involve? Are we looking at technology or innovation markets? The parties need to consider their respective market positions. The parties should determine the existence of competing or substitute technologies or of potentially competing or substitute technologies to the licensed technology. Competing or substitute technologies may mitigate any restrictive impact of the transaction on competition. What are the barriers to entry into any of the affected markets? If it is fairly easy to enter into the markets, then any anticompetitive impact of the transaction may create antitrust exposure. Does the arrangement fall within any of the safe harbors of the guidelines? If any safe harbor applies, then there is little cause for concern so long as the parties monitor the situation, particularly when the parties renew the license, to ensure that the license satisfies the pre-conditions for the safe harbor.

If it appears that the proposed license may have the potential to reduce competition significantly in some way, such as by excluding or greatly handicapping competitors or cutting output or raising prices, then the parties should consider additional factors. What efficiencies might the license accomplish that cannot be achieved another way? If there are such efficiencies that are substantial, then it may offset the potential anticompetitive impact of the arrangement. A practical question is, who might complain about the transaction, and what might they do about their complaints?

If it appears from the analysis that there are significant antitrust risks to what the parties are contemplating, then it is important to explore alternatives. In most cases, the parties can develop a viable alternative arrangement that could achieve the parties' business goals without antitrust concerns upon a closer examination of the business goals and how the parties expected the original proposed license to accomplish them.

Refusals to License, Tie-Ins, and Package Licenses

In some instances, the very refusal to license may raise antitrust issues. This refusal may arise in the context of a request for a license that is rejected, or it may arise in the context of a licensor taking the position that a particular IPR will not be licensed unless the licensee also accepts other IPRs, goods or services.

> The patent law (§ 271(d)) provides specifically:
> No patent owner otherwise entitled to relief . . . shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having . . . (4) refused to license or use any rights to the patent; or (5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.[13]

It should be noted that § 271(d)(4) differs from the law in some other jurisdictions, such as some parts of Europe, which effectively requires the patent holder to use or lose the patent. Some jurisdictions more readily accept compulsory licenses as remedies for a refusal to license.[14]

The antitrust laws provide that "[e]very person who shall monopolize, or attempt to monopolize . . . shall be deemed guilty of a felony . . . ."[15] They also prohibit "every contract, combination . . . or conspiracy, in restraint of trade . . .," which in rule of reason situations generally requires a showing of impact on the market. The showing is often inferred from the existence of market power.[16] Therefore, in this area, the patent law might generally reach a result that is consistent with that under the antitrust laws.

Refusals to License

Generally, "[a] patent owner is not in the position of a quasi-trustee for the public or under any obligation to see that the public acquires the free right to use the invention. He has no obligation either to use it or to grant its use to others."[17] Therefore, even a monopolist may refuse to license a patent. It would seem unlikely that the essential facilities doctrine[18] can be successfully invoked in such a situation.

Moreover, the status of the essential facilities doctrine is in flux following the Supreme Court's *Trinko* decision. In that case, the court expressly refused to endorse or repudiate the doctrine but commented that requiring owners of an essential facility to "share their advantage" with rivals "may lessen the incentive for the monopolist, rival, or both to invest in those economically beneficial facilities," compels the courts to "act as central planners," and compels "negotiation between competitors [that] may facilitate . . . collusion."[19]

A concerted refusal to license is suspect; it can be considered a group boycott. For example, a cross-license that requires joint approval of the parties before any of the IPR involved is licensed to a third party may be questionable.

In the copyright area, the Second Circuit concluded that there may be an antitrust claim if copyright holders agree to limit licenses to third parties. In *PrimeTime 24 Joint Venture v. NBC*,[20] a re-transmitter alleged that major broadcast television networks, local affiliates, and the National Association of Broadcasters not only brought baseless infringement suits against it but also agreed not to license future re-transmission rights to it.

A refusal to license in order to exclude potential competitors from the marketplace may be an antitrust violation if that exclusion extends beyond simply excluding others from use of the IPR. In *Data General Corp. v. Grumman Systems Support Corp.*,[21] the court held that copyright confers no automatic antitrust immunity for a unilateral refusal to license. That court also indicated, however, that an intent merely to exclude others only from using the copyright is a presumptively valid business justification for a refusal to license so that no violation of the Sherman Act would be found.

In *Image Technical Services, Inc. v. Eastman Kodak Co.*,[22] Kodak changed an existing policy and stopped selling patented and unpatented parts to independent service organizations that repaired Kodak copier equipment in competition with Kodak's service business. The US Supreme Court had held earlier that the plaintiffs could go to trial on their claim that Kodak tied its patented parts to its unpatented parts. The court also held that Kodak may have market power over its installed base of customers in the aftermarket parts area because those customers may not be able to switch from Kodak equipment without significant costs.[23]

On remand, the jury found that Kodak had used its market power in the supply of patented parts to its installed base of customers to obtain market position in the supply of service and unpatented parts to those customers. The Ninth Circuit found that the patentee's statutory right to exclude others from the area covered by the patent creates a rebuttable presumption of a valid business justification for a unilateral refusal to license or sell under the patent. The use of that right to exclude or to extend the market power of the patent to a market beyond the scope of the patent may be monopoly-leveraging and offensive to the antitrust laws, however.[24] The Court of Appeals concluded that the plaintiffs had rebutted the presumption of valid business justification by showing that Kodak had refused to sell or license its unpatented and uncopyrighted parts, while its patented or copyrighted parts accounted for only a small percentage of replacement parts for its equipment.

In comparison, in *In re Independent Service Organizations Antitrust Litigation*,[25] the Federal Circuit found that Xerox did not violate the antitrust laws by its refusal to sell patented replacement parts to independent service organizations that service and repair Xerox copiers in competition with Xerox. CSU, LLC (an independent service organization) claimed that Xerox monopolized the market of the service and repair of Xerox copiers. The Federal Circuit concluded that Xerox had no obligation to sell or license its patented parts and that Xerox's motivation for its unilateral refusal to sell or license its patented parts was irrelevant. It reasoned that there should be antitrust liability only if there was illegal tying, fraud on the Patent & Trademark Office in connection with the patent, or sham litigation to enforce the patent. CSU did not claim that Xerox had tied its patented parts to its unpatented parts or allege that there was fraud on the PTO or sham litigation by Xerox.

The court stated that, since *Professional Real Estate Investors, Inc. v. Columbia Pictures Industries, Inc.*,[26] protects litigation to enforce IP rights in such situations, that precedent also protects refusals to license. It found that there could be no antitrust liability if the competitive impact of the refusal to deal was in a market within the scope of the patent. The Federal Circuit also applied the logic of *Data General* to copyrighted software and manuals relating to the copiers and found that Xerox's motivation was irrelevant when there was no evidence that the copyrights were improperly obtained or used to gain monopoly power beyond the scope of the copyright.

The Non-Use of Acquired Patents May Create Antitrust Risk

The analysis may be different when the refusal to deal is accompanied by complete non-use of the IPR by the IPR holder. The IPR is being kept out of the marketplace entirely. In such a case, there may be a differentiation between "suppressed" IPR that the IPR holder developed and "suppressed" IPR that the IPR holder acquired from others. The standard of behavior may be stricter for conduct relating to acquired technology than for internally developed technology.

When the IPR holder developed the technology involved, the inventor is entitled to a patent if the technology was patentable, even if there was an intent not to use or license the patent.[27] A monopoly that might result from such non-use of a patent is not an antitrust violation. It is unlikely that an essential facilities theory would prevail, since the IPR holder is not using the technology at all.

On the other hand, if the IPR holder acquired the technology that is being warehoused, a different analysis might apply. The acquisition of technology is subject to Clayton Act Section 7 and Sherman Act Section 2, although the mere accumulation of patents in a single field, no matter how many, is not an antitrust violation.[28] Problems may arise, however, based on the intent of the acquirer and how the acquisition of the patents affected competition.

For example, in *Kobe, Inc. v. Dempsey Pump Co.*,[29] the court found that there was acquisition, non-use, and vigorous enforcement of "every important patent" in the field with the intent to exclude competition. The patent holder also obtained covenants not to compete from the sellers of the acquired patents and widely publicized its infringement suits enforcing its patent portfolio. The court there found that the result was a "complete monopoly of the business relating to hydraulic pumps for oil wells."

Nonetheless, even if there is suspect suppression of acquired technology by the patent holder, the inventor of the technology who sold it may not have antitrust standing to challenge the subsequent suppression of the technology.[30] Even though the case did not involve IPR but regulated telecommunications services, the reasoning of the Supreme Court in *Trinko* would appear to apply to refusals to license and raise significant doubts as to when, if ever, such a refusal may rise to the level of an antitrust violation, especially in the context of 35 U.S.C. § 271(d)(4).

Tie-Ins

If a client wants to grant a license, but only if the licensee agrees to license another patent or purchase another good or service, use caution. The bundling of a license with another license, good, or service can create significant antitrust exposure.

For a tie involving a patent to be *per se* offensive to the antitrust laws, the following need to be present: (1) the patent used as the tying item has market power; (2) in order to obtain a license on the patent, the licensee is required to take something else from the patent holder, an entity related to the patent holder, or an entity that will give the patent holder an economic interest in the transaction involving the tied item; and (3) a substantial volume of the tied item is involved.[31] If these three attributes are not all present, a tie-in would not be *per se* offensive to the antitrust laws but might still be found to be an unreasonable restraint of trade, which is much more difficult to demonstrate. Earlier, there was a common presumption that an IPR conveyed market power. Under the IP Guidelines, the patent law, and most modern case law, that presumption is no longer valid, however.[32]

A tie can be created not only by express agreement but also by conduct. For example, in *C.R. Bard, Inc. v. M3 Systems, Inc.*,[33] the court found that modifying a patented biopsy gun so that only the patent holder's needles can be used with the gun effectively imposed a tie.

For intellectual property, a finding of a tie may have repercussions beyond antitrust. If a court finds a tie-in violation of the antitrust laws, then there is also a misuse of the patent, in which case the patent holder cannot enforce the patent against any infringer at all, until the misuse has been purged.

The existence of an impermissible tie may arise in the context of patent pools and package licenses. In the copyright area, the block booking of movies is still a source of tying claims. In those cases, a film distributor requires movie theatres to book less desirable films from the distributor in order to exhibit a potential blockbuster.

The initial question in evaluating a tie is the business reason for the tie. If separate IPRs are involved, are they blocking or complementary IPRs so that it is as a practical matter not feasible to use only one of the IPRs without also using the other? If the IPRs are complementary or blocking, then there is a substantial business reason for the tie.

If the IPR is tied to something that is distinct and not needed to use the licensed IPR (or, if needed, could be obtained elsewhere), then the analysis focuses on the

IPR holder's market power. The market position of the tying technology may be insignificant, or there may be several competing technologies, in which case the tie is not a *per se* violation of the antitrust laws and also unlikely to be deemed an unreasonable restraint on trade. This may be the case especially with new and untried technology, which the holder might package with other items to increase its attractiveness to potential licensees.

If the tying technology is the dominant technology, however, then the tie may result in an abuse of market power. In the context of patents particularly, counsel should monitor the situation over time. A patent that may not have any market power when first licensed may have substantial market power when the license is up for renewal.

Counsel should also examine the impact of a tie involving IPR with substantial market power. The extent of the exclusion of other suppliers of the tied item from potential customers is an important factor. The tie may deny competing suppliers significant access to the marketplace, if their likely customers are buying the tied item from the IPR holder (and not from them) because of the customers' need for the tying IPR.

Package Licenses

A package license might be characterized as a tie in which both the tying item and the tied item are intellectual property rights. The licensor bundles several patents and/or technologies into one license.

The key question concerns the need for such a package license. What are the relationships among the technologies that are bundled in the package? Are they complementary technologies that must be used together to make a complete product or service? Are they basic and improvement technologies that should be used together to produce state-of-the-art results?

If there is no need to have the technologies in one package, then the question is what is the business need for the package. A more appropriate arrangement may be separate licenses for each of the patents or technologies in the proposed package. The arrangement might otherwise be susceptible to challenge as a tie-in arrangement offensive to the antitrust laws, particularly if the tying technology has market power.

The reasoning of *LePage's Inc. v. Minnesota Mining and Manufacturing Co.*,[34] regarding the antitrust analysis of loyalty rebates and discounts, suggests that courts may construe certain royalty structures as creating package licenses.

Patent Pools

"Patent pools" are packages of technologies from more than one source. Two or more technology owners may license their technologies to each other, with the right to sublicense to others. Alternatively, they may license their technology to a third party that will sublicense the pooled technology to others.

Participating in pools is not uncommon, especially in the high-tech and standard setting contexts. Pools are often pro-competitive and expedite the exploitation of technology. They may facilitate the integration of complementary technologies, reduce transaction costs, clear blocking positions, and avoid costly infringement litigation. Yet, the creation and administration of a patent pool can pose serious antitrust risk as pools may restrict competition among the contributors of IPR to the pool, in markets downstream from the pool, and may also dampen innovation. Technology owners and their counsel must carefully consider key elements of the pool, such as purpose, scope, administration, and control of the flow of competitive data among pool members.

The first key question is the purpose of the pool. Often the purpose explains the need to have all the technologies in a pool to provide common access to licensees. If the separately owned technologies in the pool are blocking or complementary technologies, then a pool may be the only practical way to exploit these technologies. Otherwise, a license of only one of the technologies involved may have little value, since the licensee would not have assurance of access to the other needed technologies, along with the licensed technology.

The technology owners should review each of the pooled technologies to determine whether it must be in the pool to fulfill the pool's purpose. If the pool has only purpose-oriented technologies, such as to produce a particular good or service, then the pool is probably pro-competitive; it enables a stronger offering to potential licensees and access to the market for the owners of the technologies. In that case, even if the pool will be the only source of such a package of technologies, its creation is unlikely to be anti-competitive.

If the pooled technologies are not complementary or do not consist of a basic technology and its improvements, then the technology owners should evaluate the business reasons for creating the pool. If in fact the pooled technologies are substitutes for each other, so that they are really competing technologies and practicing one of them will not infringe on any of the others, the better approach may be for the technology owners to compete for licensees and license their technologies independently. The pool may include more technology than is warranted. If the duplicative technologies cannot be fully used on a standalone basis, however, but must be combined with other technologies that are available only in the pool, that may justify including those duplicative technologies in the pool.

One approach may be to have technology owners contribute all technologies to the pool on a non-exclusive basis and to remove the duplicative technologies from the pool. The owners of the duplicative technologies can then license them in competition with the pool, perhaps in a competing pool together with complementary technology that other owners had contributed to the pool on a non-exclusive basis.

The federal antitrust agencies have favored the use of third-party technical experts to determine which technologies should be included in the pool, and some major patent pools have been organized with such a system.[35]

Antitrust concerns with pooling arrangements are amplified if the parties are actual or potential competitors outside the pool, in the area that is covered by the pool. This is especially problematic if the competitors hold significant market positions.

Counsel should review restrictions on the contributors to the pool for their potential impact. Are the licenses of technology to the pool exclusive so that the technology owners may not license the technology directly to others? Are the technology owners free to develop improvements without being required to contribute those improvements to the pool? If technology owners must license improvements to the pool, what will be the terms of such a license? Counsel should also review any collateral agreements relating to the pool. The parties should have clear business reasons for agreements that relate to the functioning of the pool.

The parties also need to carefully arrange for the administration of the pool. The better approach may be to have a third-party administer the pool and negotiate with licensees and establish terms and royalties. The policy of the pool should be to make licenses generally available to all financially qualified applicants and to charge royalties that are related to the particular package of technologies licensed. Antitrust exposure may be lessened if the pool charges royalties that are small relative to the value of the downstream products incorporating the pool's IPR. The parties also should consider tie-in implications and limit grant-back requirements. Firewalls among pool participants and the pool may be appropriate to limit data flows and activity coordination to that which is needed for the functioning of the pool.

Finally, the parties should consider the pool's impact on future innovation. What might be the impact of the pool, as structured, on the incentives to continue to develop new technology in the area?

Cross-Licenses

Unlike the other situations discussed in this article, there is a two-way technology flow in a cross-licensing situation. The parties in a cross-license license their respective technologies to each other.

As in other situations in which more than one IPR is involved, a key issue is the need for the cross-license. Does each of the parties need the technology of the other in order to fully use its own technology? Are the parties' technologies blocking each other so that each cannot use its own technology without infringing upon the other's rights? Are the parties' technologies complementary so that neither can bring a product or service to market without having access to the other's technology? Is one party's technology an improvement on the other's so that the first cannot use its technology without infringing on the other's rights, but the other cannot provide a competitive product or service without the first's improvement? In these types of situations, a cross-license may be the only practical way of enabling the parties to fully exploit their technologies.

On the other hand, if the parties do not need both sets of technologies in order to fully exploit their own technology, then the question must be asked why there is the linkage of the technologies in a cross-license. Separate and independent licenses of the parties' technologies might be more appropriate.

License Restrictions Generally, Particularly in Networks of Licenses

Just as licenses can benefit the exploitation of intellectual property and consumer welfare, restrictions in licenses can be pro-competitive by enabling the efficient and effective exploitation of intellectual property rights and preventing free riding. Therefore, courts generally test most license restrictions under the reasonableness standard. For example, field of use restrictions, limiting the licensee's right to practice the licensed IPR to a particular industry, customer group, or product type, are common and generally do not violate the antitrust laws. In many situations, such as an agreement by the licensee not to challenge the validity of the licensed patent[36] or restrictions on resale of a patented product,[37] patent concerns may be greater than antitrust concerns.

For most license restrictions, a key question is whether the restriction enables the licensor to exert control beyond the scope of the patent. Therefore, the restriction should be reasonably related to the licensed IPR. If there are questions about the competitive impact of restrictions, the parties should consider who might bring a claim and what alternatives exist.

Some license restrictions are *per se* violations. Counsel should advise clients against attempting to dictate the terms, particularly prices, at which licensees sell products under the license.[38] Less often, the parties may attempt to restrict the terms at which the licensor will license to others, a practice that counsel should discourage.

Counsel also should evaluate a network of licenses with licensees who compete with each other to ensure that they do not actually effectuate a cartel among the licensees, using the licensor as a hub and conduit. It may be reasonable for a licensor to impose exclusive territory and output limitations on its licensees in order to exploit its intellectual property rights most efficiently and effectively. If other licensees have requested that the licenses include such limitations, however, then the licenses are suspect.

Counsel should explore the business reasons for the terms of the license as well. A party may achieve the same business goals with alternative license terms that are not so suspect under the antitrust laws. For example, if the concern is that the licensee may sell the licensed product at such a low price that a percentage royalty will yield little revenue for the licensor, then the parties may agree to a royalty equal to a minimum dollar amount per unit or a percentage of the licensee's revenues, whichever is greater.

Exclusivity

Although exclusivity is common in licenses, it can lead to antitrust concerns. The courts determine whether a license is exclusive by reviewing its substance and how it is actually implemented, not by how the parties label it. The courts test an exclusive license under the rule of reason.

Exclusive License

It is common that a licensor will agree not to license others in a specified area, be it geographic, use, or customer group, and not to practice the IPR itself in that area. With this exclusivity, the licensee has the security of knowing that it is the only holder of the IPR in the area and can devote its best efforts to exploiting the IPR without concern about free riders. Exclusive licenses are generally acceptable under the antitrust laws if other potential licensees have similar technology that they can license from others or if the exclusivity is unlikely to have significant impact on prices or output levels in the market generally, even if specific competitors may be adversely affected. In most situations, courts view exclusive licenses as simply substituting the licensee for the licensor in the marketplace and therefore not changing the competitive landscape.

Moreover, refusals to license generally do not violate the US antitrust laws.[39] In the rare case in which the licensor controls IPR that is an essential input for some products or services, an exclusive license might be vulnerable under the essential facilities doctrine.[40]

A court also may view an exclusive license as the acquisition by the licensee from the licensor of the IPR. The scope and terms of the license (such as a license of all rights under a patent for the remaining life of the patent) may have the effect of a transfer of the IPR for all practical purposes. In such a case, Clayton Act Section 7, 15 U.S.C. § 18, would determine whether the transaction is an acquisition that may tend to lessen competition or create a monopoly.

An exclusive license may raise concern under Section 7 if the licensor and licensee are actual or potential competitors in the area of the IPR and there are few other competitors in that market. An exclusive license in that context may result in the exit from the market of one of the few competitors, leaving the market even more concentrated, and thus may violate Section 7.

Similarly, an exclusive license may raise concern if the licensee is already the owner or exclusive licensee of a substantial amount of competing technology so that the acquisition of the licensed IPR may result in the licensee holding much of the IPR in the area. In *United States v. Biovail Corporation*,[41] Biovail manufactured and sold the drug Tiazac. When Andrx Pharmaceuticals, Inc., developed a generic version of this drug and certified to the Food and Drug Administration (FDA) that it did not infringe any patents, Biovail entered into an exclusive license with DOV Pharmaceuticals, Inc., for a patent covering a unique formulation of the active ingredient in Triazac. Biovail then attested that this patent covered the approved formulation of Tiazac, which prevented the FDA from granting final approval to Andrx's generic equivalent and forced Andrx to defend its product. Thus, Biovail's exclusive license raised substantial barriers to entry into the market and gave it the power to exclude competition. Biovail entered into a consent decree with the FTC that required it to return part of the rights to the DOV Pharmaceuticals patent and prohibited it from taking any action that would trigger additional statutory stays on final FDA approval of a generic form of Tiazac.[42]

In many collaborations, particularly in the biotechnology area, licensing parties may couple exclusive IPR licenses with an investment by the licensee in the licensor. These licensing arrangements may trigger the pre-merger notification requirement under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, 15 U.S.C. § 18a, depending on the sizes of the parties and of the transaction.

Exclusive Dealing

"Exclusive dealing" occurs when the license restricts the licensee from obtaining similar or competing technology from others or from developing its own IPR in the area. Such a license provides incentive to the licensee to focus on the licensed IPR and comfort to the licensor that the knowledge transferred to the licensee may not benefit the licensor's competitors.

The parties should consider whether the unavailability of the licensee due to exclusive dealing would substantially restrict the access of other IPR holders to the market. If the licensor has a network of exclusive dealing licenses so that many licensees are restricted from dealing with similar or competing IPR holders then there might be such a restrictive effect on the marketplace.

This was the situation in the first *Microsoft* case, in which the per unit license fee that Microsoft charged to computer manufacturers regardless of whether the Windows operating system was actually installed on a particular computer effectively foreclosed other operating systems from being installed on computers produced by those manufacturers. Therefore, the other operating systems were kept out of the market.[43] The government's position turned on the substance of the arrangement, not the form; the government focused on the impact of the fee structure and not the characterization of the relationship by the parties.

If an agreement will foreclose the participation of the competitors of either the licensee or the licensor from the marketplace as a result of the exclusivity, then the parties should consider possible antitrust complaints and the practical alternatives to the proposed arrangement.

Co-Exclusive Licenses

A "co-exclusive" license is midway between an exclusive and a non-exclusive license, in the sense that the licensee is sharing rights only with one other entity. In many cases, this occurs when the licensor reserves the right to compete with the licensee but agrees not to license any other licensees. In other cases, the licensor grants two licensees the same rights.

One recent case highlights a pitfall in drafting co-licenses with two licensees. In *Cook Incorporated v. Boston Scientific Corp.*,[44] Angiotech granted co-exclusive licenses to Cook Incorporated and Boston Scientific Corporation to produce and market stents that are coated using Angiotech's patented technology with medication for the treatment of arteriosclerosis. A single license document conveyed these worldwide exclusive rights to Angiotech's technology. None of the parties could assign its rights or obligations under the agreement without the prior consent of the others.

Cook contracted with a third party, Guidant, to handle obtaining regulatory approval for its stents and to sell its stents. Boston Scientific notified Cook that it considered Cook's arrangement with Guidant a breach of the license agreement and issued a press release to that effect. Cook filed an action seeking a declaratory judgment that it was not in breach of the Angiotech license and alleging that Boston Scientific had violated the Lanham and Sherman Acts by sending the notice letter and issuing the press release.

On a motion to dismiss Cook's Sherman Act claim, the Northern District of Illinois ruled that the Angiotech license agreement might be concerted action that violates the antitrust laws if Boston Scientific's interpretation of it was correct. Cook alleged that Boston Scientific's interpretation of the license rendered it a horizontal restraint of trade by giving Boston Scientific a veto over the arrangement that Cook, Boston Scientific's competitor, had with Guidant to produce stents. The court ruled that Cook had stated a claim, even though Cook would have invalidated the license it received from Angiotech if it were to prevail.

The court ultimately decided the case on unrelated grounds. The fact that Cook's complaint withstood a motion to dismiss demonstrates that there are significant antitrust risks in following Angiotech's approach in licensing its intellectual property rights, however.

This case provides some lessons. First, it may be wiser not to embody multiple licenses to different licensees in one document that is executed by all the parties. It is entirely possible that Angiotech's intent was that it, and only it, would have the right to approve the actions of its licensees and not that the licensees would have the right to review each other's activities. The parties may have included the consent clause in question without taking full account of the fact that both licensees were signatories.

Second, it is wiser not to grant licensees the right to veto the activities of other licensees. Such a veto arrangement creates a situation in which competitors can restrict each other's activities. The licensor can retain a right of approval over the licensee's sublicense arrangements, however.

Finally, this type of situation can arise in the context of licenses involving know-how, copyrights, or trademarks, and so parties should exercise care in each of these licensing contexts. All types of licensees feel that they have an interest in the activities of other licensees and want to have some powers over those activities. With the possible exception of franchise licenses, in which specific state statutes may control, it is better not to permit a licensee to have review rights over the activities of other licensees.

Territorial, Use, Customer Restrictions

It is common to include in licenses restrictions on the geographic areas within which the licensee may use the technology, the uses for the technology, and the customers of the products or services using the technology.

The general rule is that courts test such restrictions under the standard of reasonableness. In particular, 35 U.S.C. § 261 provides that a patent holder may "grant and convey an exclusive right . . . to the whole or any specified part of the United States."

When the licensor and licensee are competitors, however, the parties must be careful that the restrictions are not a horizontal allocation of markets in the guise of a license *à la Pilkington*. Similarly, if a licensor has a network of licenses containing such restrictions with licensees who are competitors of each other, the parties must be careful that the licensor unilaterally imposes the restrictions in its sole judgment as to how its technology should be exploited. The licensor should not be reacting to requests from licensees for restrictions on fellow licensees or otherwise acting in ways that may facilitate a horizontal market allocation among its licensees.

The parties also should review whether the restrictions extend beyond the scope of the IPR licensed. For example, in *Pilkington*, the license restrictions prohibited the licensees from using any competing technologies outside of the licensed territories.

Resale Price and Output Restrictions

Under *State Oil v. Khan*,[45] courts analyze maximum resale price setting under the rule of reason, while minimum resale price fixing continues to be *per se* violative of the antitrust laws. Therefore, it is generally permissible for a licensor to set the maximum prices at which a licensee may sell products under a license.

The prudent course with respect to minimum resale prices is to do no more than to suggest them.[46] While the Supreme Court had ruled in *United States v. General Electric Co.,*[47] that patent licenses were an exception to the general rule against vertical price fixing, later decisions by lower courts have generally limited the applicability of that precedent to the extent that it would be unwise to rely on it in counseling. The IP Guidelines (§ 5.2) state that "the Department will enforce the per se rule against resale price maintenance in the intellectual property context."

Minimum output requirements are generally inoffensive under the antitrust laws, since they tend to increase output and decrease price, both ordinarily procompetitive outcomes. Counsel should carefully review maximum output restrictions, however. While the courts have generally reviewed maximum output restrictions under the reasonable standard, the IP Guidelines (§ 3.4) include them within the category of potentially *per se* unlawful license provisions when the parties are actual or potential competitors. Although the licensor could have prevented any output at all by refusing to grant the license, the impact of a maximum output restriction is effectively the same as resale price maintenance so that there is a significant basis for finding these restrictions questionable.

Grant Backs

It is also common to include in licenses grant backs from the licensee to the licensor of improvements that the licensee makes in the licensed IPR. There are usually good business needs for including grant backs. For example, without the grant back, the licensor may have put the licensee in business and enabled the improvement but might have put its own IPR at risk of obsolescence. Grant backs encourage licensors to offer IPR to licensees who could improve the technology without fear that the licensee will make the IPR obsolete.

Grant backs that are non-exclusive generally raise no questions under the antitrust laws. Antitrust exposure becomes a concern, however, when the grant backs are exclusive and the licensee is restricted from licensing the improvements to others or from using it. Such exclusivity is especially suspect if the licensor has a network of licenses with an exclusive grant back requirement. Counsel should review market conditions to analyze the impact of the network.

Counsel also should evaluate the scope of the grant-back requirement. Are all improvements on the licensed IPR to be granted back to the licensor? Alternatively, are only improvements in a particular area of use to be granted back? What use may the licensor make of the granted back IPR? What are the duration and scope of the grant back? What sublicensing rights or royalties are involved?

The parties should also evaluate the impact of the grant-back requirement on incentives to innovate. If the grant back is too onerous on the licensee, it may have no incentive to improve the licensed IPR, since it may not reap enough of the fruits of its labors. The parties may consider some alternatives to grant backs, such as an interest in any licenses that the licensee may grant to others in the improvements.

Royalties

Terms regarding royalties more often raise misuse than antitrust issues.[48] Such issues may arise particularly in the context of hybrid licenses involving more than one type of IP right or when multiple patents are involved.

From the patent misuse perspective, the key is to ensure that royalties are not attributable to patents past their expiration. Post-expiration royalties are patent misuse, although they are unlikely to be considered an antitrust violation.[49] In fact, such arrangements may be pro-competitive, in permitting a lower or no royalty in the early years of a license, when the licensee may have little cash flow and may still be just learning the technology, beginning to apply it and introduce it into the marketplace. A license with a post-expiration royalty provision can enable the licensor to recoup the delay in return on the license by collecting royalties for a longer period than the patent term.

For example, in the biotech area, the licensee may not incorporate the licensed IPR into products but may use the IPR to develop other products so that there may be a lag of many years before any income is generated from the use of the licensed IPR. One possible approach to such a situation is to establish the royalty amount and then to schedule deferred payments of that royalty.

Similarly when a license includes multiple patents, there is no requirement under the antitrust laws to have royalties that diminish as the patents under the license expire; the earlier-to-expire patents may be of substantially less value than the later to expire. In such a case, maintaining the same royalty rate throughout the term of the license may merely reflect the true value of the license. Nonetheless, the conservative approach is to have royalties decrease as the licensed patents expire.

Differentiated royalties, when different licensees pay different royalties, generally do not raise antitrust issues unless the handicapping of licensees affects competition. Total sales royalties, in which the licensee's total sales of a product determine the royalty amount, regardless of whether the particular item used the licensed IPR, may raise antitrust issues.[50] The more prudent course may be to clearly connect royalties to the use of the licensed IPR.

Some Additional Considerations

Antitrust issues may have implications beyond the antitrust remedies that are available to the injured party if a party invokes the doctrine of patent misuse. Antitrust concerns may also arise in litigation settings involving IPR licenses or in the context of standards development and/or implementation. The parties should also consider foreign law implications when the license has cross-border effects.

Misuse

Misuse may in some circumstances be a more important consideration than antitrust. That is because a court may find misuse even when there is no antitrust violation[51] and because misuse results in unenforceability of the IP rights against the world and not just liability to the other party in litigation.

Misuse is a form of the "unclean hands" doctrine that developed in the patent context, most often in the context of finding that the patent holder extended the scope of the patent beyond its legal scope.[52] Some courts have extended it to copyright situations.[53] "[P]atent misuse is not an affirmative claim, but rather a defense that 'results in rendering the patent unenforceable until the misuse is purged.'"[54]

Settlements

Parties to an infringement lawsuit frequently settle their dispute with a license between the parties. While one might think that an agreement approved by the court in settlement of a lawsuit should be acceptable under the antitrust laws,[55] the federal enforcement agencies, and some courts, are clearly not of that view.[56]

Therefore, counsel should analyze licenses entered into as part of a settlement of a lawsuit involving IPR in the same manner as any other license for antitrust issues. In particular, counsel should evaluate the principal purpose of the license. A court may find that the parties created a license principally to exclude competition and not merely to settle priority between the parties as to certain IPR.[57]

Standards Development

Another area in which antitrust implications may arise is standards development. The activities of holders of IPR essential to the implementation of a standard may be subject to antitrust scrutiny, both during the development of the standard and after the standard has been adopted. At the development stage, standards development organizations (SDOs) commonly require all participants to disclose any IPR that may be essential to the development of a standard and to agree to license the essential IPR on reasonable and non-discriminatory terms to enable compliance with the standard. It is unclear as to the extent to which the SDO may negotiate the precise terms of such licenses with the IPR holder. There may be antitrust and other implications of a possible failure to disclose IPR essential to a standard and of the royalty structure and other terms that the holder of essential IPR demands in licenses to enable compliance with the standard.

In *In the Matter of Rambus Inc.*,[58] the Federal Trade Commission (FTC) claimed that Rambus had violated Section 5 of the FTC Act by participating in the work of an industry standards-setting organization, JEDEC,[59] without disclosing that it possessed a patent and several pending patent applications that covered technologies ultimately adopted in some JEDEC standards. According to the FTC, Rambus perfected its patent rights and, once the standards had become widely adopted, enforced those patents against companies manufacturing products in compliance with the standards.

The Administrative Law Judge dismissed the FTC's claims because it had not demonstrated (1) that the challenged conduct amounted to a pattern of anticompetitive acts and practices, (2) exclusionary conduct, (3) intent, (4) causation, (5) anticompetitive effects, or (6) that manufacturers needed to use Rambus' technology to comply with the standard.[60] The matter is under appeal to the full FTC. Regardless of the ultimate outcome of this case, *Rambus* makes it clear that, if a party abuses the standards-setting process to restrain trade, there is real risk of liability under the antitrust laws.

Foreign Law

When a party to a license is from outside the United States, counsel should review foreign law also. In some cases, the foreign law that may be relevant may take a more restrictive view of permissible IPR license relationships.

For example, in the European Union, the Technology Transfer Block Exemption (TTBE)[61] exempts from the EU competition law strictures only certain forms of bilateral licensing agreements but not any multilateral agreements. Therefore, all patent pools may violate Articles 81 or 82 of the EC Treaty. The Technology Transfer Guidelines provide some relief from that threat by applying the principles contained in the TTBE to multiparty arrangements. Nonetheless, both the TTBE and the Guidelines are generally much more restrictive than the current state of US law as to permissible terms in licensing arrangements, ranging from exclusivity to field of use to royalties terms.[62]

Similarly, the line of cases from *Magill*[63] through *Oscar Bronner*[64] and now to *IMS*[65] reflect a much more skeptical approach to refusals to deal than that of US courts and much greater willingness to embrace the essential facilities doctrine and compulsory licensing. In *IMS*, IMS Health Inc. sued NDC Health Corp. for copyright infringement of IMS's "1860 brick structure" to collate pharmaceuticals sales data. IMS had developed the brick structure in the 1970s in collaboration with drug retailers, dividing Germany into 1,860 geographic areas containing drugstores. Pharmaceuticals sales data in Germany has since been generally gathered and analyzed according to the 1860 brick structure. NDC claimed that the brick structure was in fact an industry standard and that IMS had violated EU competition law by refusing to license it to NDC. Ultimately, the European Court of Justice held that, if the brick structure is "indispensable" to such marketing data studies, it is a violation of EU law to refuse to license the brick structure if the prospective licensee intends to use the brick structure to offer:

> new products or services not offered by the copyright owner and for which there is a potential consumer demand; the refusal is not justified by objective considerations; the refusal is such as to reserve to the copyright owner the market for the supply of data on sales of pharmaceutical products in the Member State concerned by eliminating all competition on that market.[66]

The implications of this ruling on standards, particularly *de facto* standards that incorporate IPR, may be severe since it raises the prospect of compulsory licenses.

Other jurisdictions, from South Africa[67] and Japan[68] to China,[69] also take a harsher view than the US courts generally of refusals to deal, including refusals to license intellectual property, in the context of what are deemed to be essential facilities. These foreign courts are inclined to define essential facilities much more broadly than US courts have.[70]

Conclusion

The types of transactions involving the licensing of an IPR are as varied as the rights that are the subject of the licenses. It is crucial to examine each transaction involving an IPR in sufficient detail to determine the substance of the arrangement. Within the fact-specific analysis, however, there are some constants. What is the business reason for and business context of the deal? What exactly is the arrangement that the parties are contemplating? What is the competitive impact of the transaction? Learning to pose these questions and carefully weigh the answers will help put you and your client on the right road.

Notes

1. *See http://www.usdoj.gov/atr/public/guidelines/ipguide.htm*.
2. United States v. Pilkington plc, 1994-2 Trade Cas. (CCH) ¶ 70,842 (D. Ariz. 1994).
3. United States v. The MathWorks, Inc., No. 02-888-A (June 21, 2002) (complaint), available at *www.usdoj/atr/cases/f11300/11369.htm*.
4. United States v. The MathWorks, Inc., No. 02-888-A (final judgment) (Mar. 17, 2003), available at *http://www.usdoj.gov/atr/cases/f200800/200890.htm*.
5. Townshend v. Rockwell International Corp., 2000-1 Trade Cas. (CCH) ¶ 72,890 (N.D. Cal. 2000).
6. United States v. Microsoft Corp., 253 F.2d 34, 63 (D.C. Cir.), *cert. denied*, 534 U.S. 952 (2001).
7. Complaint and Consent Order, FMC Corp. and Asahi Chemical Industry Co., Ltd., File No. 981-0237 (Dec. 21, 2000).
8. The 1992 Horizontal Merger Guidelines provide general guidance regarding how the agencies determine relevant product and service markets in their antitrust analyses. *See*

http://www.usdoj.gov/atr/public/guidelines/hmg.htm.

9. IP Guidelines ¶ 3.2.2.
10. *Id.* ¶ 3.2.3.
11. *See http://www.ftc.gov/os/2000/04/ftcdojguidelines.pdf.*
12. In addition, in 2002, the Federal Trade Commission and the Department of Justice held joint hearings on "Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy." The hearings, taking place from February 6 through November 6, 2002, examined the role of patents in certain industries and fostering innovation, the scope of patents, the role of the Court of Appeals for the Federal Circuit, refusals to license, common intellectual property licensing practices, patent pools, standards development, settlements of patent disputes, the impact of many of these activities on consumer welfare, and comparative international approaches to these issues. Following these hearings, the FTC issued a report in October 2003, "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy." This first report focused on the patent system and the role of the Patent Office and made several recommendations for improvements in the patent system. *See http://www.ftc.gov/opp/intellect/index.htm.* A second report is expected to be issued shortly jointly by the FTC and the DOJ that is anticipated to focus more on the competition policy aspects of patents.
13. 35 U.S.C. § 271(d).
14. *See*, *e.g.*, IMS Health Inc. v. NDC Health Corporation, Case C-418/01, 2004 E.C.R._(Apr. 29, 2004).
15. Sherman Act § 2, 15 U.S.C. §2.
16. *Id.* §1.
17. Hartford-Empire Co. v. United States, 323 U.S. 386 (1945).
18. The essential facilities doctrine comes into play when an entity (1) with monopoly power in one market that is an input for another market, (2) is also a competitor in that second market, and (3) uses that monopoly power against competitors in the second market by denying access to the input. The competitor in the second market seeking access must show that (a) the IPR owner controls that essential facility, (b) the competitor cannot practically duplicate that "facility," and (c) it would have been feasible for the IPR owner to provide access to the IPR. *See*, *e.g.*, United States v. Terminal R.R. Ass'n, 224 U.S. 383 (1912); MCI Communications Corp. v. AT&T, 707 F.2d 1081, 1132 (7th Cir. 1983); Montgomery Co. Ass'n of Realtors, Inc. v. Realty Photo Master Corp., 878 F. Supp. 804, 817 (D. Md. 1995).
19. Verizon Communications Inc. v. Law Offices of Curtis V. Trinko*, LLP*, 540 U.S._, 124 S. Ct. 872, Slip op. at 7-8 (2004).
20. PrimeTime 24 Joint Venture v. NBC, 219 F.3 92 (2d Cir. 2000).
21. Data General Corp. v. Grumman Systems Support Corp., 36 F.3d 1147 (1st Cir. 1994).
22. Image Technical Services, Inc. v. Eastman Kodak Co., 125 F.3d 1195 (9th Cir. 1997).
23. Eastman Kodak Co. v. Image Tech. Servs., Inc., 504 U.S. 451 (1992).
24. On the other hand, the continuing vitality of the monopoly-leveraging theory is in doubt with the Supreme Court's decision in *Trinko*, 540 U.S. at_, 124 S. Ct. at 883, Slip op. at 15, fn. 4 ("to the extent the court of appeals [in considering monopoly-leveraging] dispensed with a requirement that there be a 'dangerous probability of success' in monopolizing a second market, it erred"), citing Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447, 459 (1993). *See also* In re Independent Serv. Orgs. Antitrust Litig., 114 F. Supp. 2d 1070, 1088-1089 (D. Kan. 2000) ("A patentee may unilaterally exclude others . . . even if such conduct allows the patentee to obtain monopolies in multiple markets.").
25. In re Independent Service Organizations Antitrust Litigation, 203 F.3 1322 (Fed. Cir. 2000), *cert. denied*, 531 U.S. 1143 (2001).
26. Professional Real Estate Investors, Inc. v. Columbia Pictures Industries, Inc., 508 U.S. 49 (1993).
27. Hartford-Empire Co. v. United States, 323 U.S. 386, *clarified*, 324 U.S. 570 (1945).
28. Automatic Radio Mfg. Co. v. Hazeltine Research, Inc., 339 U.S. 827, 834 (1950).
29. Kobe, Inc. v. Dempsey Pump Co., 198 F.2d 416 (10th Cir. 1952).
30. *See*, *e.g.*, McDonald v. Johnson & Johnson, 722 F.2d 1370 (8th Cir. 1983); Alling v. Universal Manufacturing Corp., 5 Cal. App. 4th 1412, 7 Cal. Rptr. 2d 718 (Ca. App. 1992).
31. *See*, *e.g.*, Eastman Kodak Co. v. Image Technical Services, 504 U.S. 451 (1992); Northern Pac. Ry. v. United States, 356 U.S. 1, 5-6 (1958).
32. *See*, *e.g.*, 35 U.S.C. §271(d)(5); *Orion* Electric Co. v. Funai Electric Co. 2002 WL 377541 (S.D.N.Y. Mar. 11, 2002); Independent Ink, Inc. v. Trident, Inc., 210 F. Supp. 2d 1155 (C.D. Cal. 2002).
33. C.R. Bard, Inc. v. M3 Systems, Inc., 120 F. Supp. 2d 1145 (N.D. Ill. 2000).
34. LePage's Inc. v. Minnesota Mining and Manufacturing Co., 324 F.3d 141 (3d Cir. 2003), *cert. denied sub nom.* 3M Co. v. LePage's Inc., 542 U.S.—, 2004 WL 1459258 (U.S. Jun. 30, 2004) (No. 02-1865).
35. *See*, *e.g.*, Business Review Letter of Antitrust Division, Department of Justice, dated Nov. 12, 2002, relating to 3G wireless patent pool; Business Review Letters dated Dec. 16, 1998, June 10, 1999, relating to DVD patent pools; Business Review Letter, dated June 26, 1997, relating to MPEG-2 compression technology pool.
36. Lear, Inc. v. Adkins, 395 U.S. 653, 671 (1969).
37. *See*, *e.g.*, United States v. Univis Lens Co., 316 U.S. 241 (1942); Ethyl Gasoline Corp. v. United States, 309 U.S. 436 (1940).
38. *See* section entitled "Resale Price and Output Restrictions" and State Oil v. Khan, 522 U.S. 3 (1997).
39. *See* section entitled "Refusals to License."
40. *See*, however, section entitled "Refusals to License."
41. United States v. Biovail Corporation, Docket No. C-4060 (Apr. 23, 2002) (complaint), *http://www.ftc.gov/os/caselist/c4060.htm.*
42. United States v. Biovail Corporation, Docket No. C-4060

(Oct. 4, 2002) (final decision and order) *http://www.ftc.gov/os/2002/10/biovaildo.pdf.*

43. United States v. Microsoft Corp., 1995-2 Trade Cas. ¶¶ 71,027, 71,096 (D.D.C. 1995) (consent decrees). *See also*, *e.g.*, United States v. Dentsply International, Inc., 277 F. Supp. 2d 387 (D. Del. 2003) (US unsuccessfully challenged manufacturer's dealer restrictions as effectively prohibiting network of dealers from representing competing makers of prefabricated artificial teeth and excluding competing makers from majority of available distribution channels). *Cf.* LePage's Inc. v. Minnesota Mining and Manufacturing Co., 324 F.3d 141 (3d Cir. 2003), *cert. denied sub nom.* 3M Co. v. LePage's Inc., 542 U.S._, 2004 WL 1459258 (U.S. Jun. 30, 2004) (No. 02-1865) (loyalty rebates and discounts in distribution of Scotch brand tape and other 3M products may be form of impermissible exclusive dealing).
44. Cook Incorporated v. Boston Scientific Corp., 208 F. Supp. 2d 874 (N.D. Ill. 2002).
45. State Oil v. Khan, 522 U.S. 3 (1997).
46. In contrast, restrictions on the terms under which licensees may sublicense are subject to the rule of reason.
47. United States v. General Electric Co., 272 U.S. 476 (1926).
48. *See* section entitled "Misuse," *infra*.
49. *See* Brulotte v. Thys Co., 379 U.S. 29 (1964); Scheiber v. Dolby Labs, Inc., 293 F.3d 1014 (7th Cir. 2002), *cert. denied*, 537 U.S. 1109 (2003); Bayer AG v. Housey Pharmaceuticals, Inc., 228 F. Supp. 2d 467 (D. Del. 2002).
50. *See*, *e.g.*, United States v. Microsoft Corp., 1995-2 Trade Cas. ¶¶ 71,027, 71,096 (D.D.C. 1995) (consent decrees); *see also* section entitled "Exclusive Dealing," *supra*. Courts use the rule of reason to analyze royalties based on worldwide sales, regardless of whether there is worldwide patent coverage.
51. *See* section entitled "Royalties," *supra*.
52. *E.g.*, Morton Salt Co. v. G.S. Suppiger Co., 314 U.S. 488 (1942).
53. *See*, *e.g.*, Alcatel USA, Inc. v. DGI Technologies, 166 F.3d 772 (5th Cir. 1999); Practice Management Information Corp. v. American Medical Ass'n, 121 F.3d 516 (9th Cir. 1997); Lasercomb of America, Inc. v. Reynolds, 911 F.2d 970 (4th Cir. 1970).
54. Bernhardt LLC v. Collezione Europa USA, Inc., 2002 WL 1602447, (M.D. N.C. July 3, 2002) (citing B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1427 (Fed. Cir. 1997)); *see also* Virginia Panel Corp. v. Mac Panel Co., 133 F.3d 860, 868 (Fed. Cir. 1997) ("Patent misuse is an affirmative defense to an accusation of patent infringement.").
55. *See*, *e.g.*, Valley Drug Co. v. Geneva Pharmaceutical, Inc., 344 F.3d 1294 (11th Cir. 2003); In re Tamoxifen Citrate Antitrust Litigation, 277 F. Supp. 2d 121 (E.D.N.Y 2003); In re Ciprofloxacin Hydrochloride Antitrust Litigation, 261 F. Supp. 2d 188, 231-257 (E.D.N.Y. 2003).
56. *See*, *e.g.*, Louisiana Wholesale Drug Co. v. Hoechst Marion Roussel, Inc., 332 F.3d 896 (6th Cir. 2003); In re Abbott Laboratories, FTC, Dkt. No. 9273, C-3945, 2000 WL 681848 (Decision & Order 2002); In re Hoechst Marion Roussel, Inc., FTC, Dkt. No. 9293, 2001 WL 502087 (Decision & Order 2001); In the matter of Schering-Plough Corp., FTC, Dkt. No. 9297, 2003 WL 22981651 (Final Order Dec. 8. 2003); IP Guidelines ¶5. 5.
57. *See*, *e.g.*, United States v. Singer Mfg. Co., 374 U.S. 174 (1963); Hartford Empire Co. v. United States, 323 U.S. 386 (1945); Duplan Corp. v. Deering Milliken, Inc., 444 F. Supp. 648 (D.S.C. 1977), *aff'd in part & rev'd in part*, 594 F.2d 979 (4th Cir. 1979), *cert. denied*, 444 U.S. 1015 (1980).
58. In the Matter of Rambus, Inc., Docket No. 9302 (June 18, 2002) (complaint), available at *http://www.ftc.gov/os/adjpro/d9302/020618admincmp.pdf.*
59. JEDEC was originally known as the Joint Electron Device Engineering Council, from which the acronym JEDEC derives. *Id.*
60. In the Matter of Rambus, Inc., Docket No. 9302 (Feb. 24, 2004) (Initial Decision), available at *http://www.ftc.gov/os/adjpro/d9302/040223initialdecision.pdf.*
61. *See http://europa.eu.int/comm/competition/antitrust/legislation/entente3_en.html#technology.*
62. One notable exception is that it is permissible in the European Union to have royalties attributable to patents past expiration.
63. Radio Telefis Eireann v. EC (Magill), 1995 E.C.R. 743.
64. Oscar Bronner GmbH & Co. KB v. Mediaprint Zeitungs und Zeitschriftenverlag GmbH & Co. KG, 1998 E.C.R. I-7791.
65. IMS Health Inc. v. NDC Health Corporation, Case C-418/01, 2004 E.C.R._ (Apr. 29, 2004).
66. *Id.*, slip op. at I-12—I-13. In the meantime, the German national court had held on the copyright infringement claim that IMS did have a valid copyright on the 1860 brick structure, but that the copyright was not infringed if NDS had used similar numbers but differently shaped segments in its data gathering.
67. The South African Competition Act of 1998 provides that it is an offense for a dominant firm to "refuse to give a competitor access to an essential facility when it is economically feasible to do so." The law has been used to challenge refusals to license patents for anti-AIDS drugs.
68. The Japan Fair Trade Commission had recently proposed amendments to Japan's antitrust law to define essential facilities as those essential to produce goods or services in an "important market" and "almost impossible" for competitors to duplicate and to authorize prosecution of refusals to provide access to such essential facilities. The proposals have apparently been tabled in the face of substantial opposition.
69. A draft of an proposed Anti-Monopoly Law provides that a business in a dominant market position may not, "without valid reasons," refuse to sell its products.
70. *See* Verizon Communications v. Trinko, 540 U.S._, 124 S. Ct. 878-879, Slip op. at 7-8.