Regulating Intellectual (Property) Monopolies[1]

Stanley M. Besen
Senior Consultant
CRA International, Inc.

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Attorneys who represent owners of intellectual property usually bridle at the suggestion that their clients have monopoly power, and well they should. Although IP owners possess certain exclusive rights, both the patent and copyright systems contemplate that they will face at least some competition during the term of protection and unlimited competition thereafter. However, just as it is improper to characterize patents and copyrights as monopolies, it is equally improper to argue that the behavior of intellectual property owners is immune from scrutiny under the antitrust laws. That is, IP ownership does not provide insulation for behavior that would be considered anticompetitive if it occurred in other settings. As the United States Court of Appeals for the Federal Circuit has concluded:

> …intellectual property rights do not confer a privilege to violate the antitrust laws.[2]

The Extent and Limitations of Intellectual Property Protection[3]

The developers of intellectual property regimes recognized that unless creators receive some form of protection, later users may simply free ride on developers' creative

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[2] *In re* Independent Service Organizations Antitrust Litigation, 203 F. 3d 1322, 1325 (D.C. Cir. 2001).

[3] For a somewhat more comprehensive discussion of the extent of intellectual property protection and its limitations see S.M. Besen and L.J. Raskind, "An Introduction to the Law and Economics of Intellectual Property," 5 *Journal of Economic Perspectives* 3 (1991).

efforts, thus reducing the incentives for innovation.[4] However, they also recognized that protection keeps production below efficient levels and may increase the costs of other creators. For that reason, they sought to balance the effects of protection on the incentives for creation against the deadweight loss in production and the effect of protection on the costs of innovation.[5] In doing so, they placed limits on what can (or cannot) be protected, how long protection lasts, and the scope of protection that is afforded to creators.

In the United States, for example, one cannot obtain copyright protection for any "idea, procedure, process, system, method of operation, concept, principle, or discovery…."[6] nor can one obtain patents for "abstract ideas, laws of nature and natural phenomena".[7] Moreover, copyrights and patents expire at the end of terms that are fixed by law. The intent of these limitations, and others, is to expose IP rights holders to competition, including competition from other IP owners.

Competition and Intellectual Property Royalties

To see how competition affects the royalties that a holder of a patent can charge, assume, for simplicity, that there are no substitutes for the product that is produced using

[4] I say reduce rather than eliminate because a significant amount of innovative activity is likely to occur even in the absence of legal protection because, for example, first mover advantages and trade secrecy can still provide an advantage for creators.

[5] A concern that has taken on increased importance in the United States is whether the large number of patents that may potentially be infringed, together with the considerable uncertainty about what an individual patent covers, has actually discouraged innovation by increasing the risk of unintentional infringement. For a particularly forceful statement of this position see J. Bessen and M.J. Meurer, *Patent Failure*, Princeton, NJ: Princeton University Press, 2008.

[6] Copyright Act of 1976, 17 USC § 102.

[7] United States Patent and Trademark Office, Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, 22 November 2005.

a patented technology, that there exists an alternative patented technology that can also be used to produce the product, and that production costs using the alternative technology are higher by $1 per unit.[8] In these circumstances, the owner of the patented technology can obtain a royalty of up to $1 per unit from producers *if there is competition among patent holders*.[9] Moreover, under certain not unreasonable assumptions, this royalty provides appropriate incentives for prospective licensors to develop the lower cost technology.

To illustrate the latter point, assume that there are two firms, Alpha and Beta, each of which is engaged in research and development. The aims of their respective R&D programs are highly competitive in that, if both programs are technically successful, they will result in patented processes that users will regard as perfect substitutes. The probabilities of technical success are assumed to be independent and equal to one-half. Finally, assume that there is an existing technology that can be used if neither R&D project is successful and that this technology has a $1 per unit cost *disadvantage* compared to a technology that would result from successful R&D.

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[8] In order to highlight the effects of competition among rights holders, throughout this paper I assume that IP owners license their technologies for use by others although, of course, many owners will make use of the protected technologies themselves.

[9] See, e.g., H.R. Varian, *Intermediate Microeconomics*, Seventh Edition, New York: W.W. Norton, 2006, p. 314, for an explanation of why the supplier with the technology that has the "second" lowest cost constrains the maximum license fee that can be charged by the supplier with the technology that has the lowest cost. If the lower cost technology is also "better", in the sense that the resulting product is valued more highly, the royalty could exceed $1 per unit. If the lower cost technology produces a "poorer" product, the royalty could be less than $1 per unit. Indeed, if the lower cost technology produces a sufficiently "poor" product, the higher cost technology would be chosen in a competitive market. In addition, of course, different licensees may have different preferences between the competing technologies.

In this hypothetical, there is a one-fourth chance that neither R&D program will be successful, resulting in royalties to both Alpha and Beta of zero. There is also a one-fourth chance that both programs will succeed, also resulting in a royalty of zero, if there is vigorous competition between the patentees. Finally, there is a one-fourth probability that Alpha will succeed technically and Beta will not, and *vice versa*. Assume that, if this occurs, the "winner" receives royalties of $1 per unit of the product that is sold using the technology, which is its cost advantage over the existing technology, and that 100 units of the product are sold, so that total royalties are $100.

Since there is a one-fourth probability that Alpha will receive royalties of $100, the *expected return* from its R&D program is $25, so that it will undertake the R&D program if its costs are less than $25,[10] and the same holds, of course, for Beta. Significantly, when a firm "wins", it receives enough more than its costs in order to compensate both for the probability that its research and development program will fail altogether and the probability that it will succeed but that others will also succeed, so that its royalties will be small or non-existent.[11] Although revenues far exceed costs for the "winner", the difference is simply a return for the risk that the developer has undertaken, not a monopoly profit.

Of course, competition among licensors is not guaranteed. One response to this is that, where possible, the antitrust laws can and should be used to maintain or restore competition. Because, regulation is likely to be very difficult, this is the preferred

[10] For ease of exposition, I ignore risk aversion.

[11] Where entry is free and firms are not risk averse, the expected return will *equal* the cost of innovation, since entry will dissipate any excess profits.

approach. Alternatively, where competition cannot or has not been maintained, it may be necessary to regulate the rates charged by intellectual property rights holders. In some, but not all, of these cases, it may be possible to apply directly the principle that rates should reflect the outcomes that would have prevailed had competition existed. In others, application of that principle will be more difficult.

Agglomeration of Patents

The most obvious application of the principle that avoiding IP monopolies is preferred to regulating them occurs in connection with mergers between IP rights holders, or joint ventures between them. In their 1995 *Antitrust Guidelines for the Licensing of Intellectual Property*, the United States Department of Justice and the Federal Trade Commission present the following hypothetical:

> Firms Alpha and Beta independently develop different patented process technologies to manufacture the same off-patent drug for the treatment of a particular disease. Before the firms use their technologies internally or license them to third parties, they announce plans jointly to manufacture the drug, and to assign their manufacturing processes to the new manufacturing venture. Many firms are capable of using and have the incentive to use the licensed technologies to manufacture and distribute the drug: thus, the market for drug manufacturing and distribution is competitive. One of the Agencies is evaluating the likely competitive effects of the planned venture.[12]

The Agencies note that the joint venture "might…increase the prices of the drug produced using Alpha's or Beta's technology by reducing competition in the relevant market for technology to manufacture the drug." In assessing whether to oppose the joint

[12] *Antitrust Guidelines for the Licensing of Intellectual Property*, Issued by the U.S. Department of Justice and the Federal Trade Commission, April 6, 1995, p. 9.

venture, the Agencies indicate that they would consider whether there are "other technologies that can be used to make the drug with levels of effectiveness and cost per dose comparable to that of the technologies owned by Alpha and Beta" and "the extent to which competition from other drugs that are substitutes for the drug produced using Alpha's or Beta's technology would limit the ability of a hypothetical monopolist that owned both Alpha's and Beta's technology to raise its price."[13] If there are no competing technologies or drugs, presumably the agencies would oppose the joint venture.[14] The fact that the assets that are being combined consist of intellectual property would not insulate the proposed combination from the reach of the antitrust laws.

To see how license fees might increase, assume that Alpha's technology has a $1 per unit cost advantage over Beta's technology, and that there is a third firm, Gamma, over which Alpha's cost advantage is $5 per unit.[15] Where Alpha can command a license fee no greater than $1 per unit prior to a merger with Beta, after such merger it could command a fee of up to $5 per unit because now the best alternative to Alpha's technology is owned by Gamma rather than Beta. The merger raises the license fee because it eliminates Beta as the best competitive alternative to Alpha.

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[13] Ibid.

[14] This is Areeda and Turner's "clearest case" of a danger to competition involving "the acquisition of an equivalent patent covering the only known economic alternative to [the monopolist's] product or process." [See P. Areeda and D.F. Turner, *Antitrust Law*, Boston: Little, Brown and Company, 1978, Volume III, p. 118.]

[15] The discussion here implicitly assumes that both patents are valid. C. Shapiro, "Antitrust Limits to Patent Settlements," 34 *Rand Journal of Economics* 391 (2003) points out that mergers can be anticompetitive even where one party has a weak or even worthless patent and merges with a rival that would be an effective competitor if the patent were found *invalid*. In such cases, the merging parties have an incentive to argue that the patent is valid and valuable so that, as a result, the merger would have no effect on competition.

Of course, Alpha and Beta might argue, as in any merger, that: (a) their respective technologies are not close substitutes; (b) that other technologies, including some that are still in development, can and would compete effectively with their patented technologies; (c) that there were no other potential licensees and only one of the merging firms had the ability to use either of the technologies;[16] (d) that the merger creates efficiencies, perhaps by combining complementary technologies;[17] and/or (d) that other drugs compete with the drug that they propose to manufacture in their joint venture. On the other hand, the government might argue that the merger could, by placing several patents in the hands of a single entity, discourage future innovators because they fear that they might infringe at least one of the patents of the merged firm.

Instead of blocking a transaction, the agencies could insist, as a condition of permitting the transaction to be completed, require the parties to agree to license their patents to others.[18] For example, if Alpha Beta were required to license Beta's

[16] Areeda and Turner, op. cit., pp. 116-117, suggest that, in some cases, "the monopolist may be the only customer for an inventor…." In these situations, "Consumers may receive a better product where no others can effectively practice the patent or would take a long time to do so." In other words, the merger might not eliminate competition and might actually improve the situation by permitting the incumbent to exploit any improvements made by the inventor. Because of the uncertainties involved, Areeda and Turner would permit the monopolist to acquire only non-exclusive rights to the other patent. This is consistent with the cases, discussed below, in which approval of a merger was conditioned on the agreement of the merging parties to license their patents to third parties.

[17] R.J. Gilbert, "Antitrust for Patent Pools: A Century of Policy Evolution," 2004 *Stanford Technology Law Review* 3 (2004), discusses the efficiencies that can arise when complementary patents are pooled. He notes, however, that pools that involve patents that are *not* substitutes can still be anticompetitive if they are subterfuges for cartel agreements.

[18] F.M. Scherer and D. Ross, *Industrial Market Structure and Economic Performance*, Third Edition: Boston: Houghton Mifflin Company, 1990, p. 625, footnote 31, observe that "…when the accumulation [of patents] was achieved through merger rather than one's own R&D, licensing of the accumulated patents has been required."

technology to, say, Gamma, the competition faced by Alpha's technology would be unaffected by the merger.[19]

A good example of a case in which a U.S. government agency concluded that the agglomeration of patents would be anticompetitive but that this could be cured through regulating license fees involved the merger of Ciba-Geigy and Sandoz that led to the creation of Novaritis.[20] The Federal Trade Commission noted that, prior to the merger:

> Ciba/Chiron and Sandoz would grant limited intellectual property rights to other [gene therapy] developers and researchers in return for receiving marketing or other valuable rights back from them….[21]

However, the Commission found that:

> …the merger may heighten barriers to entry by resulting in one entity holding so extensive a portfolio of patents and patent applications…as to diminish its incentives to license, thus impeding the ability of other gene therapy researchers and developers to continue developing their products.

In concluding that placing a maximum on the fees that could be charged for licensing the gene therapy intellectual property held by the merging firms, rather than asset divestiture, was sufficient to prevent any anticompetitive effects from the merger, the Commission noted that:

> Competitors already have…the hard assets…needed to compete. Rivals and other scientists confirm that licensing

[19] Because Gamma can license Beta's technology to producers, the fee that Alpha can obtain is limited to the initial $1 per unit difference in cost.

[20] See Federal Trade Commission, File No. 961-0055, Ciba-Geigy Limited, et al.; Analysis to Aid Public Comments, Federal Register: January 3, 1997 (Volume 62, Number 2), Page 409-414. The maximum royalty rates are specified in United States of America Before Federal Trade Commission In the Matter of Ciba-Geigy Limited *et al*, File No. 961-0055, Agreement Containing Consent Order, December 5, 1996, ¶ IX.B

[21] Ciba-Geigy participated in the field of gene therapy through its ownership of 46.5% of Chiron's voting stock.

> would enable them to develop gene therapy products and replace the competition lost due to the merger.[22]

Limitations placed on license fees presumably reduce the amount that the acquiring party is willing to pay to the target, thus reducing the return from the target's innovative activity. However, as Areeda and Turner put it, "The patentee deserves a reward for his invention, but not for strengthening the pre-existing market monopoly."[23]

In capping the royalty rate in order to cure an otherwise anticompetitive transaction, the maximum should be set at the previous, presumably "competitive", rate. Although there may be circumstances in which antitrust regulators might conclude that an even lower rate is required,[24] the previous rates would provide an appropriate starting

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[22] The Commission also found that licensing was preferred because asset divestiture "might create substantial disruption in the parties' research and development efforts." The Commission did, however, require divestitures of assets involved in the production of corn herbicides and flea control products, two other lines of business in which the merging parties had substantial interests. In another case, the U.S. Department of Justice conditioned the purchase of DTM Corporation by 3D Systems Corporation on their agreement to license their Rapid Prototyping (RP) patents to a rival. DOJ found that "the acquisition as initially proposed would have substantially lessened competition in the U.S. industrial RP systems market." Moreover, it found that the 3D and DTM patents "prevent entry by foreign firms who sell abroad. The proposed settlement will permit new entry by requiring 3D and DTM to license their RP-Related patents to a firm…that will compete in the U.S. market." [http:/www.usdoj.gov/atr/public/press_releases/2001/8810.htm, downloaded 12/28/2007.]. The Department also conditioned the acquisition of Cardiovascular Imaging Systems, Inc. and SCIMED Life Systems, Inc. by Boston Scientific on their agreement to license intellectual property and to provide technical information regarding intravascular ultrasound catheters to Hewlett-Packard and later sued Boston Scientific for violating the terms of the consent order. [http://www.ftc.gov/os/2000/10/bsccmp.htm, download 12/28/2007.]

[23] Op. cit., p. 121. In a similar vein, Shapiro (op. cit., p. 396) notes that "consumers have a 'property right' to the level of competition that would have prevailed, on average, had the two parties litigated [a] patent dispute to a resolution in the courts" instead of merging or settling a dispute in some other way

[24] For example, in challenging the formation of a patent pool for photo refractive keratectomy (PRK) vision correcting eye surgery formed by Summit Technology and VISX, the FTC required not only that the pool arrangement be abandoned but it also mandated royalty free patent cross licensing between Summit and VISIX. It did so because it held that "subsequent sunk-cost investments in reliance on the pool make a cross license desirable to approximate the competitive conditions that would have been achieved…had the pool not been formed." [Federal Trade Commission, Complaint *In the Matter of* Summit Technology, Inc. and VISIX, Inc, Docket No. 9286, March 24, 1998.]

point for any subsequent analysis and, in any event, should establish a ceiling for the regulated rate.[25]

Non-Disclosure of Intellectual Property during the Standard-Setting Process[26]

In a recent case[27], the FTC found that Rambus, the developer and licensor of computer memory technologies had participated as a member of the Joint Electron Device Engineering Council (JEDEC) during the period in which JEDEC was developing various dynamic random access memory (DRAM) standards.[28] The FTC found that: (1) JEDEC required participants to disclose any holdings of intellectual property that might be included in its standards; (2) Rambus withheld such information about its holdings and, indeed, attempted to increase its holdings (while withholding relevant information about them) to conform more closely to the technologies that were being considered for inclusion in JEDEC standards; (3) alternatives existed for the Rambus technologies that were ultimately included in JEDEC's DRAM standards; (4) Rambus revealed its intellectual property holdings only after users were "locked in" to the JEDEC standards; (5) JEDEC members could, and would, have negotiated "reasonable" license fees with Rambus or, if such "reasonable" fees could not be agreed to, would have employed

[25] An obvious complication involves technologies that are under development by both of the merging firms and thus were not being licensed prior to the merger. In such cases, there will be no market evidence of what royalty rates would have been had the merger not taken place, and thus no readily available benchmark for the maximum rate.

[26] This section draws on joint work with my colleague, Robert J. Levinson.

[27] Federal Trade Commission, Docket No. 9302, Public Record Version, August 2, 2006 [hereafter "FTC Decision"].

[28] FTC Decision, p. 5.

alternative technologies before lock-in to Rambus' technologies had occurred; and (6) Rambus' behavior was anticompetitive and had resulted in excessive license fees.[29]

Despite noting that "Royalty rates unquestionably are better set in the marketplace, but Rambus's deceptive conduct has made that impossible"[30], the FTC declined to impose a "punitive" remedy involving royalty free compulsory licensing. Instead it attempted to set a fee that would "terminate the competitive effects of the deceptive course of conduct by which [Rambus] has acquired [its] monopoly power."[31] It concluded that

> …in the 'but for' world Rambus's royalty rates would have been negotiated under the constraint of a RAND [Reasonable and Nondiscriminatory] commitment. A reasonable royalty 'is or approximates the outcome of an auction-like process appropriately designed to take lawful advantage of the state of competition existing ex ante…between and among available IP options. The parties agree that the '*ex ante* value of a technology is the amount that the industry participants would have been willing to pay to use a technology over its next best alternative prior to the incorporation of the technology into a standard.'[32]

[29] In response to these conclusions, Rambus contends that it was not obligated under either JEDEC rules or antitrust standards to disclose pending patent applications or intentions to seek patents in the future, that its failure to disclose was justified by its need to protect trade secrets, that it was no longer a member of JEDEC when the standards were adopted, that JEDEC's members were aware of Rambus's patent holdings when the DDR2 SDRAM standard was adopted, and that the Rambus technologies would have been included in the JEDEC standards even if Rambus had disclosed its patent interests. [See Brief for Petitioner.]

[30] Opinion of the Commission on Remedy, In the Matter of Rambus, Inc., Docket No. 9302 [hereafter "Remedy Opinion"], pp. 16-17.

[31] Remedy Opinion, p. 7.

[32] Remedy Opinion, p. 17, footnote omitted.

The Court of Appeals for the D.C. Circuit recently set aside the FTC's Order,[33] concluding that the FTC had "taken an aggressive interpretation of rather weak evidence" in concluding that Rambus had a duty to disclose its patent holdings. More troubling is the Court's apparent conclusion that failure to disclose is not an antitrust violation unless an SSO can demonstrate that a particular technology would not have been included in a standard if its sponsor had disclosed its patent holdings. The Court assumed without deciding that "if Rambus's more complete disclosure would have caused JEDEC to adopt a different (open, non-proprietary) standard, then its failure to disclose harmed competition and would support a monopolization claim." However, the FTC had claimed only that more complete disclosure would have resulted *either* in the choice of a different standard *or* in JEDEC obtaining a RAND commitment from Rambus. In the latter case, the effect of non-disclosure would have been solely on the terms of the Rambus license. Significantly, the Court concluded that "JEDEC's loss of an opportunity to seek favorable licensing terms is not as such an antitrust harm."[34]

This conclusion is disturbing. The Court itself noted that "Before an SSO adopts a standard, there is often vigorous competition among different technologies for

[33] The FTC has asked the Court of Appeals to reconsider its decision. See Reuters, "F.T.C. Presses for Antitrust Ruling Against Rambus," June 7, 2008.

[34] In a similar case, the court held that a patent holder's breach of its promise to license essential proprietary technology on FRAND terms, coupled with an SSO's reliance on that promise, "is actionable anticompetitive conduct." See Broadcom Corporation v. Qualcomm Incorporated, United States Court of Appeals for the Third Circuit, No. 06-4292, Filed: September 4, 2007. In Judgment of the District Court of the Hague, Date: 11 June 2007, in LG Electronics Benelux Sales B.V. v. Koninklijke Philips Electronics N.V., the court held that Philips had an obligation to disclose its patent holdings to SSOs that were considering the JPEG standard.

incorporation into that standard."[35] The FTC had found that there were alternatives to Rambus's technology. If Rambus had disclosed its holdings, JEDEC would have been able to consider the benefits and costs, including licensing costs, of these alternatives. In doing so, it might or might not have chosen the Rambus technology. However, Rambus's failure to disclose prevented this market test from taking place, that is, it denied to the members of JEDEC the full benefits of competition among the various alternative technologies that it might consider. Although one cannot be certain what the outcome of that competition would have been, the failure to disclose prevented that competition from taking place.[36]

To see how Rambus's behavior could affect the license fees paid by users of their respective technologies, consider a situation in which: (1) there are a number of technologies each which is the intellectual property of its sponsor and all of which are equally capable of performing the same function; (2) although each of the technologies is equally capable, the licensee will incur different costs of producing products depending on which technology is selected, that is, ignoring licensing fees, the licensee's marginal "manufacturing cost" of the final product depends on which technology is employed; and

[35] Contrary to the Court's later claim, competition is not limited to "open, non-proprietary" technologies. Other proprietary technologies may also be candidates.

[36] Disclosure of IP holdings, or even disclosure combined with RAND licensing commitments may not be sufficient to prevent hold-up, so that *ex ante* license fee commitments are also likely to be necessary. European Union Competition Commissioner Neelie Kroes recently stated that "Both [patent and maximum royalty disclosure] can increase the effectiveness of the standard setting process, lead to more competitive solutions and reduce the risk of later antitrust problems. Standards bodies could very often require disclosure without fear of competition law intervention." See Software houses must declare patents in standard-setting process, says Commission, http://www.out-law.com/page-9175, downloaded June 16, 2008.

(3) for any given technology, and again ignoring license fees, these "manufacturing costs" are identical across all prospective licensees.

In these circumstances, because the technologies are assumed to be equally capable, the only basis to choose among them is the manufacturing costs that they require which, by assumption, are the same for all users. Assuming that the standards body is well informed about the various technologies, including their associated intellectual property, it should, before it adopts the standard, negotiate a license fee with the supplier of the lowest cost technology.[37] In doing so, its alternative is to use the technology that has the second lowest manufacturing cost, so that the difference in manufacturing costs of the best and second best technologies sets a ceiling to the license fee.[38] Thus, for example, if manufacturing costs are $9 per unit using the best technology and $10 per unit using the second best technology, the owner of the "best" technology can command a license fee no greater than $1 per unit.[39,] Unless the owner of the best technology

[37] This arrangement has much in common with that proposed in H. Demsetz, "Why Regulate Utilities?," 11 *Journal of Law and Economics* 55 (1968), which advocated awarding a natural monopoly franchise to the entity that offered to provide the service at the lowest price. An important complication in applying this approach in standard-setting occurs where the owner of a technology chooses not to participate in the activities of an SSO, and thus is not obligated to reveal its intellectual property holdings. Although this may affect the probability that the technology will be is incorporated into the standard, a non-participating owner can obtain significant market power if it reveals its ownership of intellectual property only after it is fortunate enough to have its technology included in the standard, presumably because the standards body was unaware of the existence of the intellectual property. Some observers have expressed concern that the requirements of disclosure and *ex ante* fee negotiations might, by raising the costs of participation, discourage sponsors from joining SSOs. [See, e.g., *Antitrust Enforcement and Intellectual Property Rights*, p. 50.]

[38] See J. Farrell, J. Hayes, C. Shapiro, and T. Sullivan, "Standard Setting, Patents, and Hold-Up," 74 *Antitrust Law Journal* 603 (2007), for an extended discussion of the factors that would determine license fees if negotiations were to occur before a standard is adopted.

[39] In this example, if the owner of the most-efficient technology attempts to charge more than $1 per unit, users that relied on its technology would incur costs, including the patent royalty, of more than $10 per unit. If that were the case, the owner of the second-most-efficient technology could displace the supplier of

demands a license fee greater than this amount, its technology will be incorporated in the standard.[40]

Of course, if these negotiations take place *after* a patented technology has been included in a standard and after industry participants have made sunk investments based on the standard, the existence of an alternative technology does not constrain the fees that can be charged by the patent holder. Moreover, unlike the case of mergers, discussed above, where pre-merger royalty rates may present a useful benchmark for the regulated rates, there often will be no such benchmark if rate negotiations have taken place only after investments have been sunk.[41]

Finally, of course, since regulating rates may, at least in part, be intended to punish a technology sponsor for failing to disclose its intellectual property holdings in a timely fashion, it may be appropriate to set royalty rates *below* those that would have prevailed if there had been *ex ante* competition. Indeed, that may explain why, in an

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the most-efficient technology by setting a royalty rate just below $1, resulting in per unit costs of just less than $11. Anticipating this outcome, the supplier of the most efficient technology would not demand a royalty in excess of $1. Recall that I have assumed that the technologies differ only with respect to their associated manufacturing costs.

[40] The Department of Justice and the Federal Trade Commission have noted that *ex ante* negotiations "might be unreasonable if there were no viable alternatives to the particular patented technology that is incorporated into a standard, the IP holder's market power was not enhanced by the standard, and all potential licensees refuse to license that particular technology except on agreed-upon licensing terms. In such circumstances, the *ex ante* negotiation among potential licensees does not preserve competition among technologies that existed during the development of the standard but may instead simply eliminate competition among the potential licensees for the patented technology." [*Antitrust Enforcement and Intellectual Property Rights*, p. 53.]

[41] However, where an SSO has rejected a patented technology for which a fee was demanded in favor of one that it believed was not protected by a patent, the fee that was demanded may provide an appropriate benchmark.

earlier case, the FTC required Dell to license its technology at a zero royalty rate after it was found to have abused the standard-setting process.[42]

Just as a merger or joint venture can eliminate competition among patent holders, failure to disclose a patent holding can eliminate price competition among sponsors of technologies that are competing to be included in an industry standard. Moreover, just as preventing the merger or formation of the joint venture may be preferred to regulating royalty rates, exploiting *ex ante* competition among standards sponsors is preferred to regulating rates *ex post*. Nonetheless, where users have become "locked in" before rates royalty fees have been determined, the principle is clear. Rates should reflect those that would have prevailed had there been competition among sponsors prior the time at which costs have been sunk.[43] Of course, applying this principle is likely to be difficult in practice because do so requires information not only about the technology for which the royalty rate is being set but also about its best alternative.

Blanket Licensing for Music

Music performance licenses take two forms. Some licenses, for example those taken by theater owners that wish to perform "dramatic" musical work, for example, entire musical plays, or motion picture producers that wish to obtain synchronization rights that permit them to incorporate music into the sound track of a film, are

[42] In the Matter of Dell Computer Corporation, Decision and Order, Docket No. C-3658, May 20, 1996.

[43] The same principle should apply where a patent holder has committed to charge Reasonable and Non-Discriminatory (RAND) or Fair, Reasonable, and Non-Discriminatory (FRAND) royalties if its technology is included in a standard. T. Lefton, "IBM, Unisys Reduce Fees for Unisys Compression," *Electronic News*, January 1, 1990, pp. 1, 34, reports that IBM and Unisys reduced their royalty fees after the CCITT indicated that their demands jeopardized the inclusion of their technologies in an international standard.

individually negotiated directly with music publishers or their agents in presumably competitive markets.[44]

By contrast, some works are performed under blanket licenses between music copyright collectives, also referred to as copyright collecting societies or performance rights organizations, and users. That is how night clubs, restaurants, pubs, and radio stations, typically obtain the rights to perform music. Under a blanket license, performers at these venues are permitted to play any of the songs in the repertoires of the collective in return for a fee based on factors such as revenues, seating capacity, etc.[45] Fees are generally negotiated between the collecting society and an entity that represents a group of prospective licensees, for example the trade association of hotels, theater owners, or radio broadcasters. In almost every country, fee-setting is overseen by, and potentially regulated by, the government, presumably to limit the market power of the collectives.[46]

The stated rationale for these blanket licenses is that they reduce transaction costs by permitting licensees to perform any of a large number of songs by taking a single

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[44] Henceforth, references to music publishers are also intended to include composers. In most countries, but not the United States, performers also receive royalties when recorded music is performed.

[45] For example, the blanket license fee paid by Australian cinema operators to the Australasian Performing Right Association (APRA) was increased to 0.462% of Gross Box Office Receipts, with a minimum fee of $55, on July 1, 2008. Performing rights societies have developed extremely elaborate and complex licensing arrangements, presumably to permit them to extract the maximum fees from licensees. For example, the fees paid by restaurants, taverns, nightclubs, and similar establishments for an ASCAP license depend on "whether the music is live or recorded, whether it is audio only or audio-visual, the seating capacity of the bar or restaurant, the number of nights per week that music is offered, the number of musicians, whether admission is charged, and several other factors." [ASCAP, *Using Copyrighted Music*, p. 13.]

[46] In most countries, these activities are carried out by specialized rate-setting bodies but in the United States they are performed by "rate courts" established as part of antitrust consent decrees. For a description of some of these institutions see S.M. Besen and S.N. Kirby, *Compensating Creators of Intellectual Property: Collectives that Collect*, The Rand Corporation, R-3751-MF, May 1989, pp. 64-75.

license and, at least as important, they provide insurance against the possibility that licensees will be held liable for infringement if performers play songs for which the venue had not obtained a license from the publisher prior to the performance. As the ARPA web site puts it:

> APRA makes [licensing] simple. We collectively administer the public performance and communication rights on behalf of the majority of the world's composers, songwriters and music publishers. This means that rather than having to obtain permission from each and every copyright owner before you use music, you can usually take out an APRA licence to cover your business' music needs.

An interesting case involves the performance of music in motion picture theaters. Although, as I have already noted, motion picture *producers* will already have obtained synchronization licenses, motion picture *exhibitors* generally must obtain a separate license for performance rights and universally do so by acquiring blanket licenses through the music collecting societies in their respective countries.

This is true in every important market *except the United States*. As a result of a private antitrust suit and a subsequent set of antitrust consent decrees, motion picture exhibitors in the United States are not required to obtain rights for performances of music in the United States. In *Alden-Rochelle*[47], a group of theater owners alleged that because ASCAP would not allow direct licensing by its members, and would not grant performance rights to motion picture producers, exhibitors were required to obtain additional licenses from ASCAP. The *Alden-Rochelle* court found that ASCAP had

[47] Alden-Rochelle, Inc. v. ASCAP, 80 F. Supp. 888 (S.D.N.Y. 1948).

violated the Sherman Act, enjoined ASCAP from acquiring performance rights in music that had been synchronized in movies, and enjoined ASCAP members from refusing to license performance rights when they license synchronization rights. The *Alden-Rochelle* judgment was vacated when, in 1950, a similar provision was added to a consent decree that ASCAP had previously negotiated with the U.S. Government.

As a result of *Alden-Rochelle* and its progeny, a motion picture producer that licenses the synchronization right to a musical composition effectively obtains a "through to the viewer" license for performances in theaters in the United States.[48] The rationale for this arrangement is that the number of licensors is generally relatively small, there is ample time to identify the owners of the copyrights prior to the performance, the value of each individual transaction is significant, there is no uncertainty about whether a particular song will be performed when a film is shown since it is already contained in the sound track, and, most important for the current discussion, such an arrangement preserves competition among composers.

A film producer, in deciding which songs to include in a sound track, generally has a number of alternatives from which to choose.[49] As a result, the license fee that a publisher can obtain for a given song can be no greater than the difference between the value of the song to the production and the value of its best alternative. In other words,

[48] Moreover, because the synchronization license effectively also includes a performance license, presumably producers are willing to pay more for such licenses than for synchronization licenses alone.

[49] This is not the case for all films. For example, the producers of the film version of *My Fair Lady* could not have substituted songs written by someone other than Lerner and Loewe although, of course, they could have produced a different film.

competition limits the license fee that publishers can obtain.[50] By contrast, the blanket license fee, which is offered for an all-or-none license, is not constrained by competition among the members of the collective.[51]

The arrangement in the United States demonstrates the feasibility of competition among publishers for both synchronization and performance rights for motion pictures. In other countries, where such competition does not exist, fees for licenses of theatrical performances of motion pictures are constrained only either by the bargaining power of groups of buyers or by government regulation. Neither is a particularly attractive substitute for competition among the members of the collective, not least because of the difficulties in determining the rates that collectives can charge.

When the issue of licensing music that is incorporated in the sound tracks of television programs, the United States adopted the same arrangement as in the rest of the world, individual licensing of synchronization rights by television program producers combined with collective licensing of performance rights. Indeed, when the very same film for which producer have obtained "through to the viewer" licenses for theatrical

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[50] A particularly interesting example of the availability of substitutes involves the song "Happy Birthday to You." Apparently because of the high fee demanded by its copyright owner, it is rare for the song to appear in a film. "For He's a Jolly Good Fellow", which is in the public domain, is often used a substitute.

[51] It is sometimes argued that the blanket license is benign because competition to have a song included in a soundtrack will dissipate any monopoly profits from the blanket license. There are two responses to this. First, even if profits are dissipated, the deadweight loss from excessive blanket license fees would still remain, especially where fees are quoted as a percentage of revenues or on a per-customer basis rather than a fixed amount. Second, because of the vagaries of the distribution processes used by collecting societies, a composer has no assurance that any revenues he foregoes by lowering his synchronization fee will be matched by a commensurately larger share of the collecting societies blanket license fees. Note that even under the per-program license that is offered to U.S. radio broadcast stations, where the fee depends only revenues during times when music is performed, the fee does not depend on which, or how much, music is performed during these times.

performances is shown on television, broadcasters and cable and satellite operators must obtain blanket licenses for performance rights from the collecting societies in order to perform the music in the film.

An effort was made to overturn this arrangement through a series of private antitrust suits. In 1969, CBS brought suit against both U.S. music performing rights collective, BMI and ASCAP, contending that blanket licensing was an unlawful restraint of trade under the Sherman Act. At one point in this litigation, the Court of Appeals for the Second Circuit found that blanket licensing constituted illegal price fixing because it eliminated price competition among members of the collectives, and thus was *per se* illegal.[52] However, the U.S. Supreme Court rejected the finding of *per se* illegality, holding that the blanket license was "quite different from anything that an individual owner could issue."[53] Interestingly, the Court held that "the blanket license has provided an acceptable mechanism *for at least a large part of the market* for the performing rights to copyrighted musical compositions"[54] and thus should be evaluated under the rule of reason. On remand, the Second Circuit found that CBS had offered no evidence that it had been unsuccessful in obtaining direct, i.e., through to the viewer, licenses from copyright owners, and thus could not demonstrate that the blanket license had restrained trade.[55] Thus, the courts never directly addressed the question of whether performance

[52] CBS, Inc. v. ASCAP, 562 F. 2d 130 (2d. Cir. 1977).

[53] BMI v. CBS, Inc. , 441 U.S. 1, 7-25 (1979), rev'd CBS, Inc. v. ASCAP, 562 F. 2d 130 (2d. Cir. 1977).

[54] Id., p. 24, emphasis added.

[55] CBS v. ASCAP, 620 F. 2d 930 (2d. Cir. 1980).

licenses for television network broadcasts were included in the "large part of the market" for which the blanket license was an "acceptable mechanism."

Still later, a group of local television broadcasters brought suit against ASCAP and BMI, once again challenging the legality of the blanket license. As in the case of the CBS litigation, the plaintiffs in *Buffalo Broadcasting* alleged that the blanket license prevented television program producers from obtaining performance rights directly from music publishers and then conveying these rights to television stations when they licensed the rights to broadcast syndicated programming.[56]

Initially, the District Court held for the plaintiffs, holding that "there is no realistically available alternative to the blanket license." However, the Court of Appeals for the Second Circuit reversed, holding that there was no evidence that local stations could not offer composers direct payments for the rights to perform their works. It held, further, that the plaintiff's case was undermined by the fact that they had been able to license music directly for use in their locally produced programs.

Unfortunately, the Court did not attempt to learn from the extensive experience under *Alden-Rochelle*. Its analysis missed the important point that, unlike the *producers* of television programs, who can substitute one song for another, television *stations* can negotiate only with the music publishers whose songs are already included in the sound tracks of the programs that they wish to air.[57] Moreover, *Alden-Rochelle* had already demonstrated that the most efficient way for these transactions to occur, while still

[56] Syndicated programs are licensed on a station-by-station basis.

[57] This was not the case, of course, for locally produced programs.

maintaining competition, was to have program producers obtain *both* synchronization and performance rights in a single transaction. Finally, of course, television programs have the same characteristics – small number of licensors, sufficient time to identify copyright owners, significant value for each transaction, and certainty about whether a particular song will be performed – that made direct licensing of performance rights for motion pictures feasible.

Somewhat more recently, the trade association for the cable television industry as well as two cable program services challenged the BMI blanket license.[58] In 1989, BMI began to attempt to collect performance license fees from the program services when they carried syndicated programming and from the cable operators themselves.[59] As the Court noted in *NCTA*:

> Plaintiffs…emphasize that all other rights pertaining to music use in syndicated programming are conveyed at the time of production and are done so in a competitive marketplace where negotiations as to these rights are characterized by price competition. In other words, plaintiffs assert that in a world without a blanket license, music performing rights would be negotiated in the same competitive setting, via producer source licensing. In particular, the fact that syndicated programming…involves music "in the can," and the agreements between programmers and the producers or distributors of syndicated programming prohibit the deletion of the music contained therein, restrains plaintiff from obtaining performing rights by any means other than the blanket license.

[58] National Cable Television Association v. Broadcast Music, 772 F. Supp. 614 (D.D.C. 1991).

[59] "Under this approach, cable program services and cable system operators would have to obtain separate music performing rights licenses for the transmission of programming containing BMI music."

The Court characterized this argument as "superficially appealing" but rejected it on the grounds that, in fact, there were alternatives to the blanket license. However, each of the various alternatives described for direct or source licensing for music in syndicated programming suffers from the fatal flaw that the music in question is already "in the can". That is, in the negotiations contemplated by the courts, there are no competitive alternatives against which the program services or cable operators could turn if they were dissatisfied with the terms offered by music publishers.

Moreover, unless the blanket license fee were reduced by an amount at least as great as the fees paid for direct licensing, neither the program services or the cable operators had any incentive to attempt direct licensing. Indeed, even a program producer has no incentive to negotiate a performance license if it knows that the blanket license fees paid by its licensees – the program services – will be unaffected. The fact that few, if any, direct licenses had been successfully negotiated seems not to have any effect on the Court's conclusion that direct licensing was a feasible alternative to the blanket license.

By forbidding ASCAP from demanding performance license fees from motion picture exhibitors, *Alden-Rochelle* convincingly demonstrated that the blanket license was not necessary for music publishers to receive compensation for theatrical performances. Moreover, the ensuing history of music licensing in television demonstrates that the existence of the blanket license presents an (almost) insurmountable obstacle to a transition from the blanket license to direct licensing.

Unfortunately, this lesson was not learned by the courts in *CBS*, *Buffalo Broadcasting*, and *NCTA*. Thus, the blanket license for television transmissions seems firmly entrenched in the U.S. This is unfortunate because *Alden-Rochelle* and its progeny stand for the proposition that collective licensing is not always necessary and that competition among music rights holders is often feasible. In those cases, it is better to insist that music publishers compete rather than allow them to combine to offer blanket licenses.

Nonetheless, there will be cases in which direct licensing is not feasible and where, therefore, blanket licensing may be the only alternative.[60] This will be the case where, unlike songs that are included in the soundtracks of motion pictures, the number of licensors is large, the value of each individual song is small, there is uncertainty about which particular songs will be performed, and there is insufficient time to identify the owners of the copyrights prior to the performance. This occurs, for example, in the case of live performances in night clubs and dance halls. The question then becomes how to regulate license fees such cases.[61]

One approach is to limit the activities of collectives to administrative functions, such as assuring that users have licenses, collecting fees from licensees, and distributing the proceeds to their members, while allowing individual members to set their own fees. This would retain the benefits of collective administration while still allowing for competition among copyright owners. Under this arrangement, licensees could decide

[60] It is important to emphasize that the blanket license arrangements that are, in my view, unnecessary, account for a relatively large share of the revenues of most copyright collectives. For example, in the United States, where ASCAP does *not* collect fees from theater operators, fees from broadcast and cable television account for about 40 percent of its domestic receipts.

[61] Of course, it will also be necessary to regulate blanket licensing fees where they are employed despite the fact that alternative licensing arrangements would be feasible.

which songs to play based on both the quoted prices and the value they place on each of them.

Something like this was, in fact, attempted in the United States by the Copyright Clearance Center, a collecting society through which print publishers sought to collect when their works were photocopied. The CCC sought to avoid antitrust concerns, while still obtaining the benefits of collective licensing, by allowing its members to set the prices for individual works, say professional journal articles, but permitting licensees to deal directly with the CCC instead of individual publishers. However, users found the necessary record keeping cumbersome and instead preferred blanket licenses that permitted them to pay a single price irrespective of the amounts or identities of the works that they photocopied. Under one approach, models of copying specific to the industries of licensees were developed and fees were based on these models. Although individual rights holders still set fees for their own works, and samples of copying were taken to assist in the distribution of fee revenues, the fees paid by individual licensees were not tightly linked to the amounts or identities of the works that they copied.[62]

The failure of CCC's Transaction Service resulted primarily from the fact that record keeping by licensees was expensive. However, when articles are acquired through computer downloads rather than photocopying, administrative costs are likely to be far less. For example, although a user who wishes to download from JSTOR, an on-line service that provides access to academic journals, can do so under a blanket license, he also can purchase them on an individual basis and, indeed, he often can also acquire the

[62] See S.M. Besen and S.N. Kirby, op. cit., pp. 46-53, for a discussion of this experience.

same articles directly from their publishers. Whether a blanket license is efficient will depend, in part, on the technology that is used for acquiring materials and on the associated costs of tracking their use and these can change over time. An approach that provides users with a realistic direct licensing alternative, such as the one offered by JSTOR, could mitigate the anticompetitive effects that would otherwise accompany blanket licensing.

In those cases where direct licensing is not a realistic alternative, the task remains as to how to determine an appropriate blanket license fee. The usual approach is to begin with a benchmark rate, drawn either from the rate previously charged by the collective to the same licensees or the rate then being paid by a putatively comparable group of licensees. The benchmark is then adjusted to take account of differences between the benchmark group and the licensees for which the rate is being determined. These adjustments usually reflect differences in the respective "scales" of the two groups, often based on differences in revenues, and differences in the amounts of music use.

Apart from the difficulties in determining whether the benchmark rate is an appropriate "comparable", and whether the adjustments to that rate are appropriate, this approach suffers from the fundamental problem that there is generally no reason to believe that the benchmark rate was determined in a competitive market. That is, what one wants as a benchmark is not a comparable group of licensees but a group of licensees for which the fee was determined in a competitive, or at least a more competitive, market.

Indeed, this is what the United States District Court for the Southern District of New York did when it employed the fee charged by BMI, a smaller collective, as a basis

for the fee that could be charged by ASCAP to Showtime and The Movie Channel, cable program service that aired primarily theatrical motion pictures. Although ASCAP's repertory was about three times that of BMI, and ASCAP claimed that the prospective licensee used twice as much ASCAP as BMI music, the Court determined that ASCAP's fee should be only 1.2 times the fee charged by BMI.

In explaining the basis for its decision, the Court indicated that it had sought

> …to arrive at a rate that would not reward ASCAP for the exercise of any leverage that may be inconsistent with generally accepted antitrust principles while still providing its members with a return for their labors that is generally commensurate with the value that a competitive market would place on both the musical fruits of those efforts and the benefits offered by the blanket license.[63]

Although the BMI rate does not provide a perfect benchmark – it is likely that even BMI had some market power – it provided at least a useful starting point for regulating ASCAP's rates.[64] Unfortunately, such an alternative will generally not be available in most countries, where only a single copyright collective exists.[65]

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[63] See Order of Michael H. Dolinger, United States Magistrate, in American Society of Composers. Authors and Publishers v. Showtime/The Movie Channel, Inc., Originally filed under Seal on Oct. 12, 1989, ¶ 152.

[64] One obvious source of market power is the fact that the music in question was already "in the can", that is, because Showtime and The Movie Channel programs consisted primarily of theatrical motion pictures that had already been produced and shown in theaters, there was no possibility of substituting other songs in their sound tracks if the prices demanded were too high. The only alternatives were to commission new programs and obtain direct licenses from composers or to air programs without music.

[65] Indeed, there exists a third, even smaller, collective, SESAC, originally the Society of European Stage Authors & Composers, in the United States, which might have served as an even better competitive benchmark. As noted above, license fees are typically negotiated between collecting societies and associations of users. Nonetheless, because these negotiations take place "in the shadow of" the law, the fees that regulators impose in decided cases, or the fees that it is believed that they would impose, may influence these private negotiations.

The appropriate competitive price for *an individual song* is the contribution of the song *to the value of the repertory* of the collective that is, it is the difference between the amount that a licensee would be willing to pay for access to a repertory with the song and the amount that it would be willing to pay for a repertory without the song. Alternatively, it is the price that would prevail if composers competed to have their songs carried.[66]

The appropriate competitive price for *the repertory* is that amount computed separately for each song summed over all songs in the repertory.[67] This is not the same as, and in fact it is certainly substantially less than, the amount that the licensee would be willing to pay for access to the entire repertory rather than go without music altogether, the "all or none" price.[68] Because of diminishing returns, the marginal value of a song will be less than the average value of all songs.

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[66] Still another alternative would be the price that would prevail "if music rights were scattered among numerous performing rights societies with users free to secure only those licenses needed to distribute particular films." American Society of Composers, Authors and Publishers, Appellant, v. Showtime/The Movie Channel, Inc., Applicant-Appellee, United States Court of Appeals, Second Circuit, 912 F.2d 563 (1990) ¶ 21.

[67] See S.M. Besen, S.N. Kirby, and S.C. Salop, "An Economic Analysis of Copyright Collectives," 78 *Virginia Law Review* 383 (1992) for an analysis of this issue. The analysis in that paper "does not apply to instances in which it is relatively easy for users to obtain licenses directly from authors, whether or not direct or 'source' licensing is actually used." [Footnote 1, p. 383.]

[68] In a recent case, the Copyright Tribunal of Australia began its analysis with an estimate of "patrons' willingness to pay to visit a nightclub playing music…over another form of late night venue with no music but with all other attributes and variables held constant." In this case, the Phonograph Performance Company of Australia Limited requested a fee equal to one-third of this estimate, on the assumption that it, the Australian Performing Rights Association (APRA), and the nightclub owner had equal bargaining power. The Tribunal, after making several downward adjustments to the estimate of the maximum willingness to pay, attributed half of the estimated value to the owner and commensurately reduced the share attributed to the Applicant. This attribution was based on the fact that "there is no relevant marginal cost involved for either the [Applicant] or APRA in granting a license for a nightclub operator to play recorded music at a venue. On the other hand, the nightclub operator runs the risk of substantial losses having regard to the expenses that must be incurred in order to offer a nightclub experience, expenses that

This logic apparently informed the Court in *ASCAP v. Showtime* where, although the court found that "the ASCAP license may be viewed as conveying somewhat more value to the licensee than does the BMI license," it found that the added value was much less than proportionate to the greater size of the ASCAP repertory, only 20 percent greater despite the fact that the ASCAP repertory was about three times as large and ASCAP music was played about twice as often.

Unfortunately, there will usually not be another collective whose fees can be used as a benchmark. Nonetheless, it may, be possible to employ the "more competitive" principle by using as a benchmark the fee paid to the same collective by other licensees *in a situation in which the collective can be presumed to have less market power*. Such cases can arise where individual licensees can more easily avoid the use of copyrighted music or where a group of licensees can more easily exert countervailing power in its dealings with the collective. Thus, the competitiveness of a market should be an important criterion in determining whether it can serve as a useful benchmark.[69]

Conclusion

Regulating IP rates is more difficult than regulating the prices charged by natural monopolies because it requires knowledge of the alternatives that would be available to licensees in competitive markets. For that reason, it is desirable to avoid the creation of

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will be sunk whether or not patrons attend and irrespective of how many patrons attend." The Tribunal, rather modestly, notes that the resulting fee "is, of course, to a considerable extent, arbitrary and artificial" and, indeed, it makes no claim that the rate is competitive.

[69] The ACCC reports that the Copyright Tribunal of Australia has used "whether the market under consideration is competitive" as one of the factors in determining whether the rate that a collecting society can charge is the "market" or "going" rate. [Australian Competition & Consumer Commission, *Copyright licensing and collecting societies: a guide for copyright licensees*, Draft for comment, November 2006, p. 26.]

IP monopolies through merger, to prevent patentees from acquiring monopoly power by failing to disclose their IP holding to Standard Setting Organizations, and to limit the activities of copyright collectives to those in which direct or source licensing is not feasible. In those circumstances in which the effects of anti-competitive behavior must be undone, such as where an illegal patent pool has been formed or patent holdings have not been disclosed to an SSO, regulated license fees should be no greater than the value of the advantage of the patented technology over its best alternative. Where blanket copyright licensing cannot be avoided, or where it is employed even when it need not be, regulated license fees should be based on those negotiated in other, more competitive, markets.