American Business Law Journal
Volume 43, Issue 4, 689–739, Winter 2006

Vanquishing Copyright Pirates and Patent Trolls: The Divergent Evolution of Copyright and Patent Laws

*Robert E. Thomas**

I. INTRODUCTION

The primary objective of intellectual property law is to promote creativity and innovation.[1] However, the principal method of effectuating this objective, the granting of exclusive rights in valuable creations for limited periods, also limits competition.[2] These behaviors are not entirely

---

*Associate Professor of Legal Studies and Huber Hurst Fellow, Warrington College of Business, University of Florida. Dan Cahoy and two anonymous reviewers provided critical comments and suggestions which I gratefully acknowledge. As always, any remaining errors are solely my responsibility.

[1]The U.S. Constitution grants Congress the power, "[t]o promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." U.S. CONST. art. I, § 8, cl. 8. *See also* Mark A. Lemley, *Ex Ante versus Ex Post Justifications for Intellectual Property*, 71 U. CHI. L. REV. 129, 129 (2004) ("It is the prospect of the intellectual property right that spurs creative incentives."). Scholars are careful to point out that these limited rights are not the equivalent of monopoly power in the antitrust sense. *See, e.g.*, Daniel R. Cahoy, *Changing the Rules in the Middle of the Game: How the Prospective Application of Judicial Decisions Related to Intellectual Property Can Promote Economic Efficiency*, 41 AM. BUS. L.J. 1 n.18 (2003) ("One of the most common errors is in describing intellectual property rights as 'monopolies.' "); Simon Genevaz, *Against Immunity for Unilateral Refusals to Deal in Intellectual Property: Why Antitrust Law Should not Distinguish Between IP And Other Property Rights*, 19 BERKELEY TECH. L.J. 741, 747 (2004) ("To the contrary, intellectual property grants do not automatically confer monopoly power onto their owners").

[2]If the valuable creation has no perfect substitutes, the owner has the ability to demand and receive prices that exceed his marginal costs. A profit-maximizing firm's incentive to raise prices is limited only by the closeness of potential substitutes. *See* Lemley, *supra* note 1, at 135 ("The owner of an exclusive right to either would have some power to raise the price above marginal cost—power that results from the fact that neither product has a perfect substitute—but that power would be significantly constrained by the existence of other products that could serve some of the same purposes.").

unexpected. The difference between marginal costs and the market price for intellectual property represents an economic rent that can be—but is not always—quite valuable to rights holders.[3] Companies like IBM generate millions of dollars from exploiting their intellectual property portfolios.[4] The income-generating value of intellectual property gives intellectual property owners incentives to influence the direction of legislative change in order to maximize intellectual property returns. Highly visible examples of changes that arguably benefited intellectual property owners include time extensions such as the Sonny Bono Copyright Term Extension Act, which protects creative works for as long as 120 years, and the 1995 revisions to the Patent Act, which changed the calculation of patent term to 20 years from filing.[5]

Recent and proposed copyright and patent law legislation suggest a divergence in the direction of change. Copyright law has taken an approach that is increasingly protective of owners thereby allowing rights owners to preserve or capture a large proportion of the economic rents generated by their intellectual property.[6] By contrast, patent reform

---

[3]Economic rents are amounts received due to prices charged in excess of marginal costs. *See, e.g.,* Frank H. Easterbrook, *Contract and Copyright*, 42 Hous. L. Rev. 953, 956–57 (2005) ("Rewards to authors and inventors are economic rents, to be sure, but rarely monopoly rents.").

[4]*See*, *e.g.*, Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. Pa. L. Rev. 1, 46–49 (2005) (reviewing IBM's success in building patent portfolios); Gary L. Reback, *Patently Absurd*, Forbes ASAP, June 24, 2002, at 44 (recounting how IBM was able to extract upwards of $20 million from Sun Microsystems for seven patents of questionable validity). Kevin G. Rivette & David Kline, Rembrandts in the Attic, Unlocking the Hidden Value of Patents 57–63, 119–22 (2000) (discussing patent licensing strategies by companies such as Xerox).

[5]17 U.S.C. § 302 (2000) (providing copyright terms for anonymous works, pseudonymous works, and works for hire, the shorter of 95 years from publication or 120 years from creation); 35 U.S.C. § 154(a)(2) (2000 & Supp. II 2002). Congress changed the calculation of patent term from seventeen years from issuance to twenty years from the filing date to bring the United States into compliance with the Agreement on Trade-Related Aspects of Intellectual Property Rights. *See* Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1c, Legal Instruments—Results of The Uruguay Round, 33 I.L.M. 1125, 1197 (1994) [hereinafter TRIPS]; Uruguay Round Agreements Act, Pub. L. No. 103–465, 101–103, 108 Stat. 4809, 4984 (1994).

[6]*See*, *e.g.*, Semiconductor Chip Protection Act of 1984, 17 U.S.C. §§ 901–914 (2000); Audio Home Recording Act of 1992, 17 U.S.C. §§ 1001–1010 (2000); Vessel Hull Design Protection Act of 1998, 17 U.S.C. §§ 1301–1332 (2000); Digital Millennium Copyright Act, Pub. L. No. 105–304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of 17 U.S.C.) [hereinafter DMCA]. *See also* Viva R. Moffat, *Mutant Copyrights and Backdoor Patents: The Problem of Overlapping Intellectual Property Protection*, 19 Berkeley Tech. L.J. 1473, 1493 (2004) ("As

legislation proposed during the 108th and 109th Congressional sessions would take patent law along a path of decreasing protection of patent holders' interests.[7] Provisions in this legislation erect significant barriers to the enforcement of patent rights including making it more difficult to obtain injunctive relief and creating additional opportunities for third parties to oppose issued patents.[8]

This article provides an explanation for this apparent divergence in the development of copyright and patent law. Despite the differences, the tracks are consistent with rent-seeking behavior of strongly vested interest groups.[9] Political theory posits that laws evolve in favor of such interests.[10] One would not be surprised to find, for example, that changes in copyright law have not only strengthened intellectual property rights but also have allowed content holders to limit the exercise of fair use in order to suppress Internet piracy.[11]

Large media companies such as Disney, A&M Records, and MGM Studios obtain substantial income and market power from exploiting copyrights.[12] Their large size and substantial resources allow them to exert

---

a general proposition, however, copyright protection has only expanded over time and that trend is likely to continue or even accelerate.").

[7]Patent Reform Act of 2005, H.R. 2795, 109th Cong. (2005).

[8]H.R. 2795, 109th Cong. §§ 7, 9 (2005).

[9]Saul Levmore, *The Evolution of Property Rights: Two Stories About the Evolution of Property Rights*, 31 J. Legal Stud. 421, 423–33 (2002) (arguing that changes in property rights can be explained by either a transactions-costs or interest-groups analysis). However, while some of the legal changes discussed herein are consistent with changes in relative costs, I argue that some of the changes are more amenable to an interest-group explanation due to less than clear costs reductions and strong differences in strength of interests of relevant groups. *See infra* notes 71–85 and accompanying text.

[10]*See* James Q. Wilson, Politics of Regulation 367–72 (1980).

[11]*See, e.g.*, Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. Chi. L. Rev. 263, 282 (2002) (asserting that advocates of limiting fair use with respect to digital materials have succeeded in having such restrictions enacted into law).

[12]*See* Michael J. Meurer, *Copyright Law and Price Discrimination*, 23 Cardozo L. Rev. 55, 83 (2001) (asserting that, "Disney derives most of its market power from copyright law"). A&M and MGM, a music and film company, respectively, were the named plaintiffs in the cases that held that Napster and Grokster violated copyright law. A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir. 2001), *rev'd*, 284 F.3d 1091 (9th Cir. 2002) (ruling that the Napster online service was liable for contributory copyright infringement); Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913 (2005) (holding that Grokster, by promoting its service for unauthorized file sharing, was liable for the resulting copyright infringement).

tremendous influence on legislative bodies.[13] Hence, the passage of copyright legislation that favors their interests is consistent with political theory. However, the dynamics of influence are far more complex than this simplistic story suggests. Change to both copyright and patent law is characterized by fierce interest-group competition that tends to thwart any interest group from achieving complete victory. The battle to modify copyright law to address digital media concerns was no exception. However, the successful passage of legislation providing for stronger copyright protection over substantial opposition was due in large part to the engineered passage of the 1996 World Intellectual Property Organization (WIPO) treaties.[14]

While strong patent interest groups have also pushed for major changes to patent law, they have not been as fortunate as their copyright counterparts. Proposed patent reforms are designed to address the interests of large information technology (info-tech) companies seeking to reduce their exposure to patent trolls—nonproductive patent consolidators who acquire patents allegedly for the purpose of extorting a substantial settlement or judgment from productive companies.[15] However, like

---

[13]*See* Wilson, *supra* note 10, at 359. However, the correlation between resources and influence is far from perfect. There is little evidence of regulatory capture (a one-to-one correspondence between regulatory action and the interests of large interest groups), and ideas and political philosophy still appear to play a substantial and increasing role in policy decisions. *Id*. at 392–93. Institutional rule changes in Congress, gerrymandering, and closed primary contests guarantee the persistence of ideologically based decision making especially in the House of Representatives. *See, e.g.*, Richard H. Pildes, *The Constitutionalization of Democratic Politics*, 118 Harv. L. Rev. 28, 110–11 (2004) (asserting that closed primaries, under the control of state political parties, are dominated by strongly ideological voters, which tends to eliminate moderate candidates from consideration); Juliet Eiperin, Fight Club Politics (2006) (arguing that redistricting and reforms implemented by House of Representative Republicans guarantee that legislation addresses the interests of conservative Republican House members).

[14]World Intellectual Property Organization: Copyright Treaty, Dec. 20, 1996, 36 I.L.M. 65 (adopted by the Diplomatic Conference on Dec. 20, 1996), *available at* www.wipo.int/treaties/en/ip/wct/trtdocs_wo033.html [hereinafter Copyright Treaty]; World Intellectual Property Organization: Performances and Phonograms Treaty, Dec. 20, 1996, 36 I.L.M. 76, (adopted by the Diplomatic Conference on Dec. 20, 1996), *available at* www.wipo.int/treaties/en/ip/wppt/trtdocs_wo034.html [hereinafter Performances Treaty].

[15]Info-tech companies have complained about the proliferation of patent lawsuits that target them. Microsoft, citing defense expenditures of $100 million and thirty-five to forty lawsuits annually, is a particularly strong supporter of patent reform. *See* Declan McCullagh, *Microsoft, Oracle Call for Patent Reform,* ZDNet, Apr. 25, 2005, http://news.zdnet.com/2100-9588_22-5683240.html?tag=nl.

major interest groups in the copyright realm, the interest groups in the patent realm lack a commonality of interests. Large biotechnology, medical, and pharmaceutical companies (biotech/pharma) do not face the same threat that their info-tech counterparts face. This lack of cohesiveness has likely delayed or prevented the passage of some of the proposed patent reforms.

Part II begins the analysis with an examination of the strategic implications of copyright and patent law. This analysis includes a discussion of the differences between copyright and patent intellectual property. It highlights the fact that the intellectual property in copyrights is an end-user, directly consumable product, whereas intellectual property in patents is almost always an input to production of other products and has at best indirect value to consumers. The end-user focus of copyright property mandates a more complex legal structure to prevent intellectual property piracy and illegal use by consumers. On the other hand, patent-oriented innovative industries do not face significant losses from end-user behavior because their intellectual property is encapsulated in articles or methods not directly used by consumers. Instead, high-technology companies face greater risks from being sued for accidental infringement exacerbated by the patent troll phenomenon.

Part III provides a political-economic analysis of proposed changes in copyright and patent law. Both the movement to reform copyright law for the digital age during the 1990s and the patent reform movement in the mid-2000s are examples of interest-group politics. This article argues that copyright content holders avoided major compromises by positioning desired legislation as a technical implementation of U.S. treaty obligations. Patent reform advocates have not received the same free pass and, as a result, are unlikely to achieve the same level of success that their copyright counterparts enjoyed during the last decade. Part IV concludes that paradigm-shifting changes, such as those resulting from the Digital Millennium Copyright Act (DMCA), will not be replicated anytime soon.

II. Strategic Implications of Intellectual Property

This part reviews the role of intellectual property laws in encouraging innovation and rent seeking by inventors and authors, the threat of lost economic rents due to end-user behavior in intellectual property as

opposed to tangible property, and the divergence in protections offered by copyrights and patents due to digitalization.

A. Economic Rents Due to Copyright and Patent Laws

The most prominent types of intellectual property are copyrights and patents.[16] The laws of copyright and patent provide incentives to create and innovate by authorizing and enforcing exclusive rights. Implicit in this approach is that creators and inventors need incentives to induce them to continue to create.[17] It follows that, in the absence of protection, there is limited economic gain and, consequently, inadequate incentive to produce socially enhancing innovations.[18] In the absence of protective barriers provided by exclusivity, any positive economic return will attract free riders who duplicate the inventor's or author's work and market products without incurring development costs.[19] In perfect markets, competitors continue to produce until positive economic profits are bid down to zero.[20] This argument is particularly powerful for inventions whose development requires huge investments. Without the potential to at least recover development costs, an inventor may not attract sufficient financing or be willing to invest the resources needed to complete the project. Intellectual property preserves these incentives by excluding competitors for a fixed amount of time.

In addition to incentives to create, intellectual property law also induces rent-seeking behavior as right holders take steps to maintain or maximize the economic profits that result from their exclusivity. Without an exclusive right to market products, producers lose profits from: (1) rivals who produce the same goods, (2) new entrants attracted by the positive economic profits, (3) producers of substitutes, and (4) customers and

---

[16]Intellectual property comes in several flavors, but only the domains of copyrights and patents are directly referenced in Article I of the Constitution. U.S. Const. art. I, § 8, cl. 8. This specific reference suggests that the constitutional drafters recognized the importance of providing incentives for creation and invention.

[17]*See* William M. Landes & Richard A. Posner, The Economics Structure of Intellectual Property Law 13 (2003); Cahoy, *supra* note 1, at 9.

[18]There is also the potential for excessive incentives to innovate that produce too much innovation. Cahoy, *supra* note 1, at 10. This discussion is beyond the scope of this analysis.

[19]*See* Landes & Posner, *supra* note 17, at 40.

[20]*Id.*

end users who do not pay for the product.[21] Rivals and entrants place downward pressure on profits by providing nearly identical goods. Without entry barriers, rivals enter markets until profits drop to zero. Substitute products provide similar downward pressure. Although a producer can distinguish his product through quality, appearance, or unique features, the closer the substitutes, the more difficult it is to distinguish products and maintain profits. By creating legally sanctioned protective barriers, intellectual property law blunts the deleterious impact of these competitive forces. The primary sources of competition come from producers of substitute goods and businesses that flout intellectual property protections.

B. Lost Economic Rents Due to End-User Behavior: Tangible Goods

Profit losses due to end-user behavior include: (1) unauthorized taking or use, (2) resale or free transfer, (3) sharing goods, and (4) rentals. Unauthorized taking or use can be limited through nonextraordinary security measures for tangible goods. Surveillance equipment, electronic tagging, and guards are some of the measures used to limit this type of loss. Lost sales also occur when consumers sell or give away goods. A book reader may give away or sell a book he has completed. Similarly, a consumer may give away or sell old furniture or a car when they upgrade. Because used goods are substitutes for new goods, these used-goods transactions constitute lost sales for producers.

Finally, sales are reduced when consumers share or rent goods rather than purchase individual units. Neighbors sometimes purchase lightly used yard equipment together rather than individually. Friends may purchase a music CD jointly with the expectation that one keeps the original and the others make copies. Alternatively, when a cooperative opportunity is unavailable consumers may rent or borrow goods rather than purchase them. Consumers will likely take this approach when their use is infrequent or temporary, the value of the good is uncertain, or the cost of purchase is prohibitive or not the best use of funds. Young couples typically rent houses and apartments until they save enough for a down payment or settle on a satisfactory location. Car rentals are very popular for travelers. Transaction costs are typically too high to purchase a vehicle for a short period, yet the benefits of having personal transportation at a distant

---

[21] Michael Porter, Competitive Strategy 3–33 (1980). Porter also discusses how demands from suppliers and customers can reduce profits.

location are substantial.[22] Rentals also provide a means of testing a good to determine whether the good provides enough value to warrant a purchase. A similar analysis occurs for businesses that lease equipment rather than purchase it. Depending on available tax incentives, investment opportunities, and cash-flow needs, businesses and consumers may choose to lease rather than purchase equipment and other goods.[23]

While some of these transactions reduce sales, such losses are generally not substantial for tangible goods.[24] Losses due to theft and unauthorized use can be contained and limited through nonextraordinary security procedures. Losses due to resale of tangible goods are self-correcting because tangible goods depreciate and wear out. A tangible item can be resold only a limited number of times. In addition, by constantly improving and updating its products, a producer can make used items less than perfect substitutes for new purchases.[25] For example, a fifth-generation iPod with its color screen and sixty gigabytes of storage is a far more capable music player than the original iPod and its monochrome screen and five gigabytes of storage.[26] Sharing tangible goods also is unlikely to

---

[22]European countries address this problem by subsidizing purchases of new vehicles by foreign visitors who stay in Europe for as short as seventeen days. They address the additional problem of disposing of the car at the end of term by including a vehicle repurchase agreement in the contract. *See, e.g.,* Auto Europe, http://www.autoeurope.com/buyback_home.cfm (last viisted Feb. 15, 2006) (offering car rentals from Peugeot for term stays in Europe).

[23]*See, e.g.,* William Roch, *Revisiting the Lease versus Purchase Decision,* May 24, 2005, http://www-03.ibm.com/industries/financialservices/doc/content/resource/thought/1596212103.html (discussing leasing justifications and factors that influence the desirability of leasing rather than purchasing).

[24]One notable exception to this rule is the market for college textbooks for which used books can be a near perfect substitute for a limited period and the value to consumers (students) declines rapidly. Therefore, to avoid a precipitous loss of revenues, book publishers issue new editions frequently and include "extras"such as Web sites with the purchase of new books. *See* Margaret Webb Pressler, *Textbook Prices On the Rise; Frequent New Editions, Supplemental Materials Drive Up Costs,* WASH. POST, Sept. 18, 2004, at E01. Some businesses actually prosper from rental transactions. The rental and leasehold market is often a key component of a producer's business strategy. For example, many large car manufacturers rely heavily on leases and the car rental business for sales. *See* Poornima Gupta, *US Automakers Jan Sales Up, Fleet Sales Surge,* MSNBC, Feb. 1, 2006, http://famulus.msnbc.com/famulusgen/reuters02-01-102013.asp?t=RENEW.

[25]College textbook publishers use this strategy. *See* Pressler, *supra* note 24.

[26]*See Identifying Different iPod Models,* APPLE COMPUTER, http://docs.info.apple.com/article.html?artnum=61688.

produce major losses for producers. In many cases, these transactions do not constitute lost sales. People who share goods often have limited or infrequent need for the shared goods. In the absence of sharing, many of these people would not purchase the goods individually. If heavily used by a collective organization, shared tangible goods are likely to wear out quicker than unshared goods. Moreover, if goods are shared by many, moral hazard problems are likely to lead to rapid deterioration of the collective goods and require accelerated replacement.[27] Hence, these types of transactions are unlikely to produce major reductions in profits.

C. Why Intellectual Property is Different

The lack of a real threat of the loss of economic rents by end-user behavior in the area of tangible goods is not true for intellectual property. By contrast, guarding against consumer-based losses for intangible intellectual property is a nontrivial matter. Intellectual property is nonperishable and nonrival in consumption. Therefore, many factors that make transferring tangible property costly to consumers are not applicable for many types of intellectual property.[28] Tangible property, with some exceptions, wears out. Hence, unless the good has value as an antique, collector's item, or status object, it is more valuable new. Furthermore, because tangible property can only be enjoyed by a finite number of people simultaneously, losses due to unauthorized use are limited. By contrast, one sale of an object embodying intangible property can make the property accessible to anyone who wants it if there are no legal or technical constraints preventing free transfer.[29] Therefore, profit-maximizing owners of intangible

---

[27]This is a tragedy of the commons in problems in which the lack of private ownership is likely to lead to overuse or rapid dissipation of a resource. *See generally* Garrett Hardin, *The Tragedy of the Commons*, 162 Science 1243 (1968).

[28]Some types of intellectual property have limited consumer value except when associated with a tangible good. Thus, the concerns for these rights holders differ dramatically from those of rights holders in intellectual property that is intrinsically intangible. *See infra* notes 49–50 and accompanying text.

[29]Some commentators suggest that copying would be limited even in the absence of copyright law. *See*, *e.g.*, Landes & Posner, *supra* note 17, at 41. Others have asserted that, in the absence of copyright law, production of creative works would continue and society would benefit. Michele Boldrin & David K. Levine, *The Case Against Intellectual Property*, 92 Am. Econ. Rev. 209, 212 (2002).

property must take greater precautions against unauthorized transfers in order to maintain profit flows.

D. Divergence Between Copyright and Patent Holders' Interests

Prior to the digital era, business strategy concerns were equivalent for both copyright and patent holders. In both cases, intellectual property was practically (if not legally) embodied in tangible property or, in the case of process patents, of little direct value to consumers. Therefore, for both copyrights and patents there was little need to be overly concerned about losing profits through sales to end users. Authors delivered creative works through books, record albums, magazines, broadcasts, paintings, and other tangible vehicles. Although it was possible to copy or enjoy these works without permission, costs of doing so were prohibitively expensive. Prior to the introduction of copying technology, creative works would have to be copied by hand or with expensive typesetting. The cost of such copying in time and resources limited counterfeiting.[30] Even through the 1980s losses due to consumer behavior were not significant.

Subsequently, improved technology allowed copies to be made and shared at much lower costs. Photocopiers, cassette recorders, and video recorders allowed very inexpensive copying of copyright-protected materials. However, in most cases these copies were imperfect replicas of the originals and, therefore, were imperfect substitutes.[31] Moreover, while consumers may have shared analog copies of music with friends, they were not mass distributors of unauthorized copies. The high copying costs and lack of inexpensive copying technology effectively deterred mass distribution, and losses due to end-user infringement were not substantial.

End-user duplication of patented creations was also a nonissue. Like creative works prior to the digital age, patented intellectual property was not easily separated from the tangible goods that embodied it. For example, when a consumer obtains a patented drug she can transfer whatever she does not use. The intellectual property in the drug is the formula, manufacturing process, or method of use. The average end user does not have the ability to reproduce any of this for economic gain. Unless the consumer is planning to sell the goods, the cost of manufacturing patented

---

[30]Landes & Posner, *supra* note 17, at 42.

[31]*Id*. at 41.

goods greatly exceed the price of simply purchasing what one needs. Even for less complex articles and processes it rarely makes economic sense for an end user to manufacture a patented good.

In this environment, both copyright and patent holders focused on large-scale infringers. Without having to recoup development costs, infringers could reproduce and resell creative and inventive works below the price that allowed intellectual property rights holders to recover development costs.[32] A copy of a music album that retails in the United States for upwards of $20 can be professionally reproduced by pirates and sold for less than a tenth of that price.[33] Similarly, duplicates of a patented drug and other patent-protected products could also be sold for far less than the price of legally licensed versions.

The congruence between the interests of copyright and patent holders changed in the digital era. Intellectual property rights holders were forced to pursue different strategies to limit the ability of infringers of their intellectual property rights from flourishing.[34] The most important manifestation of these efforts was the TRIPS agreement, which resulted from the World Trade Organization (WTO) negotiations on intellectual property.[35] TRIPS provides strong incentives for countries, typically developing countries, to enforce intellectual property rights of noncitizens. Continued membership in the WTO is contingent on TRIPS compliance and failure to comply could subject the country to trade sanctions.[36]

1. Digitalization and the Interests of Copyright Holders

The TRIPS agreement marked the point at which the interests of copyright holders and patent holders diverged. TRIPS provided tools to deal with losses stemming from the unauthorized production of tangible

---

[32]*See* Landes & Posner, *supra* note 17, at 40.

[33]*See* Alex Nicholson, *Russian Pirates Web Site rivals iTunes*, MSNBC, Jun. 2, 2006, http://www.msnbc.msn.com/id/13104396/.

[34]International negotiations were spurred by developing nations, which had incurred substantial losses due to international intellectual property piracy. Estimates of U.S. losses ranged between $43 and $61 billion in 1988. Note, *Tackling Global Software Piracy under TRIPS: Insights from International Relations Theory*, 116 Harv. L. Rev. 1139, 1140 (2003).

[35]*See* TRIPS, *supra* note 5.

[36]*See* Todd M. Rowe, *Global Technology Protections: Moving Past the Treaty*, 4 Marq. Intell. Prop. L. Rev. 107, 114 (2000).

goods.[37] In essence, TRIPS, adopted before the proliferation of the Internet, was designed for a pre-Internet world. Hence, as recent domestic court actions against file-sharing companies Napster and Grokster attest, TRIPS had little impact on digitized intellectual property and end-user behavior.[38] With digitalization and the Internet, creative works were no longer inextricably tied to tangible goods and geographical locations. Thus, creative works pirated in Asia could be available all over the world instantaneously.[39] While literature, music, film, and other works continue to be delivered through tangible media, they are easily separated from their tangible forms. When digitized, these creative works are available and storable in electronic form. This separability drastically reduces the marginal cost of reproducing, sharing, and transferring the works to consumers.[40]

The cost of storage space also continues to decline.[41] Combined with cheap storage, the Internet and file sharing make instantaneous and nearly costless transfers of creative works to multitudes of users. The essentially zero cost of storage and transfer of creative works all but eliminates the

---

[37]*Id*. The TRIPS focus is primarily international. Even with this focus, there remains substantial electronic piracy from sources based internationally. *See* Mac William Bishop, *Notorious Pirate Tawain Now Fights IPR Piracy,* Asia Times Online, Oct. 7, 2004, http://www.atimes.com/atimes/China/FJ07Ad07.html (commenting that U.S. firms lost more than $757 million due to Taiwanese electronic pirates in 2002); *China Expresses Doubts About Ability to Curb IPR Violations,* Channel NewsAsia, Feb. 24, 2005, http://www.channelnewsasia.com/stories/afp_asiapacific/view/134156/1/.html.

[38]A&M Records, Inc. v. Napster, Inc., 284 F.3d 1091 (9th Cir. 2002); Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd., 545 U.S. 913 (2005).

[39]Thomas Friedman, a journalist for the *New York Times*, describes how personal computers, global communications, and digitization have helped flatten the world. Thomas L. Friedman, The World is Flat 54–58 (2005). With personal computers and a global communications network, "everything—words, music, photos, data, video" could be represented digitally and exchanged globally. *Id*. at 57. Friedman sees this development as positive for the global economy. However, the dark side of global interconnectivity and low transaction costs is the facilitation of global piracy.

[40]*See* Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 Duke L.J. 1, 37 (2004).

[41]In 2006 it is not uncommon for computers to include 250-gigabyte hard drives as standard equipment, and 500-gigabyte hard drives, which are already available, will soon become commonplace. Seagate Technology, a large producer of hard drives, lists hard drives in capacities up to 750 gigabytes on its Web site. Seagate, *Personal Data Storage Overview,* http://www.seagate.com/products/personal (last visited Jul. 1, 2006).

deterrence value of intellectual property protections. Whereas in the pre-Internet era a consumer could share a creative work with a very limited number of friends, today a single consumer can transfer a digital file to anyone who wants it. Thus, in theory, a single sale can reduce demand for a creative work to zero if the purchaser or associate of the purchaser places the creative work on the Internet.[42]

Despite the low costs in transferring digital files, it is not readily apparent what economic benefit people obtain from unauthorized sharing. Economics postulates that individuals do not engage in activities that do not provide a positive (expected) return.[43] Therefore, file sharers must get some nonpecuniary return for their efforts. For some, the exchange is an explicit or implicit quid pro quo. For example, Warez networks typically require an exchange of software or registration codes as a condition concurrent to membership.[44] Members obtain creative works free of charge in exchange for posting other creative works. File-sharing networks like Grokster and Kazaa create sharing directories that become part of the network.[45] Files that people download are placed in share folders and became available to other network members.[46] Finally, there is likely an affiliation payoff from belonging to such networks.[47] Members may gain an

---

[42]While many people do not download files without authorization, there are enough people who do engage in this behavior to adversely affect the lawful demand for creative works. Music industry losses range up to thirty percent. *See* BMG Music v. Gonzalez, 430 F.3d 888, 890 (7th Cir. 2005).

[43]*See* Robert Cooter & Thomas Ulen, Law and Economics 16 (1988).

[44]"Warez refers to pirated software or to a website or bulletin board where visitors can download assorted digital content including commercial software applications and games." Phillip Stuller, *How the RIAA Can Stop Worrying and Learn to Love the RICO Act: Exploiting Civil RICO to Battle Peer-to-Peer Copyright Infringement*, 24 Loy. L.A. Ent. L.J. 521, 525 n.40 (2004).

[45]Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd., 545 U.S. 913, 920 (2005).

[46]It is important to note that file sharers often incur the costs of taking affirmative steps to prevent becoming a source for further dissemination of protected materials. For some networks, a member's computer can become a node or "supernode" often without the member's knowledge. When the member's computer is so selected, the member becomes a source of shared files usually without his knowledge. *See* Rochelle C. Dreyfuss & Jane C. Ginsburg, *The Role of National Courts: Draft Convention on Jurisdiction and Recognition of Judgments in Intellectual Property Matters*, 77 Chi.-Kent L. Rev. 1065, 1150 (2002).

[47]*See, e.g.,* Robert E. Thomas & Bruce Louis Rich, *Under the Radar: The Resistance of Promotion Biases to Market Economic Forces*, 55 Syracuse L. Rev. 301, 310 (2005) (explaining how individuals gain welfare-enhancing benefits from group affiliation); Richard H. McAdams, *Cooper-*

affiliation-based or associational prestige from being a major music supplier. Regardless of the reason, there is a substantial amount of unauthorized intellectual property circulating electronically.[48]

2. Digitalization and the Interests of Patent Holders

Whereas digitalization created enormous problems for copyright holders, the digital age did not present significant new problems for patent holders. Even with digitalization, patents provide virtually no end-user value independent of the tangible property that is produced by the use of the intellectual property. For example, Apple Computer, Inc. has multiple patents that cover its iPod media player.[49] Patents cover the iPod design as well as aspects of its functionality. However, these patents are of no use to consumers independent of the iPod that embodies the patented technology. Consumers have no use for the iPod design or how it functions. They may value the way an iPod looks and how well it functions, but this value is inextricably tied to the tangible iPod. The iPod patents may be valuable to a competitor or company interested in designing competing products. However, knowledge of the intellectual property in a patent is rarely useful to anyone who is not willing or able to make a competing product using the patent. For the most part, patents are inputs to production and useful only to producers.[50] If a competitor uses iPod patents without permission, Apple can enjoin production and further sales of the infringing products and recover damages, including lost profits and attorney fees along with

---

ation and Conflict: The Economics of Group Status Production and Race Discrimination, 108 Harv. L. Rev. 1003, 1019 (1995) (arguing that individuals engage in non-pecuniary-enhancing activities solely for the psychic benefits that accrue with enhanced group status).

[48]About thirty-six million Americans, nearly a third of all U.S. Internet users, admit to downloading unauthorized copyrighted materials. Mary Madden & Lee Ranie, Pew Internet Project Data Memo: Music and Video Downloading Moves Beyond P2P 1 (2005), http://www.pewinternet.org/PPF/r/153/report_display.asp.

[49]For example, U.S. Patent No. D469,109 (filed Oct. 22, 2001) covers the iPod design, and U.S. Patent No. 6,934,812 (filed April 5, 2002) covers functional aspects of the iPod.

[50]Patents covering software, as well as some "business method patents," may be exceptions to this rule. Depending on what is claimed in a patent, the end-user may be able to easily duplicate the electronic embodiment of the invention as easily as one duplicates copyrighted material. Whereas duplication of software subject to patent protection would almost certainly be copyright infringement as well, it is possible to infringe a business method patent without infringing an associated copyright.

treble damages where appropriate.[51] Thus, there is little need for new laws designed to protect patents from consumer-based infringing behavior.

A much bigger problem than end-user infringement for large patent holders is the potential for patent conflicts. Conflicts are common due to the relatively low initial bar that patent examiners apply to patent applications.[52] To identify and reject all weak patents would require the U.S. Patent & Trademark Office (PTO) to invest far greater resources into each patent application examination than it currently invests.[53] The PTO received over 380,000 patent applications in 2004 and issued over 180,000 patents.[54] Because a sizable majority of patents have insignificant economic value[55] and are of little interest to anyone other than the patent holders, it is not efficient for the PTO to invest substantially more resources to determine initial patent validity.[56] It makes sense that the costs of testing the validity of questionable patents with significant economic

---

[51]35 U.S.C. §§ 283–285 (2000).

[52]Patents must be novel, nonobvious, and useful. 35 U.S.C. §§ 101–103 (2000 & West Supp. 2006). Some critics allege that overworked patent examiners approve patents that fail to meet these statutory requirements. *See* Jeff Nesmith, *Patent Suits Prove to Be Potent Weapon: Some Call "Trolls" Heroes, but Targets Claim Shakedown*, Atlanta J.-Const., March 14, 2006, at 1D.; John R. Thomas, *Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties*, 2001 U. Ill. L. Rev. 305, 316–21 (2001).

[53]Although it may seem appalling that nonmeritorious inventions ever receive patent coverage, it generally would not be economically efficient for the PTO to invest the resources necessary to play the role of strong gatekeeper. *See* Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 Nw. U. L. Rev. 1495, 1508–11 (2001) ("The strong implication . . . is that society ought to resign itself to the fact that bad patents will issue, and attempt to deal with the problem *ex post*, if the patent is asserted in litigation."). *But see* John R. Thomas, *The Responsibility of the Rulemaker: Comparative Approaches to Patent Administration Reform*, 17 Berkeley Tech. L.J. 727, 730–40 (2002).

[54]U.S. Patent & Trademark Office, U.S. Patent Statistics Chart Calendar Years 1963-2004, http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm (last visited Jul. 1, 2006).

[55]*See, e.g.*, Sean Hao, *68 Patents Issued in Hawaii Last Year*, Honolulu Advertiser, Jan. 9, 2006, http://the.honoluluadvertiser.com/article/2006/Jan/09/bz/FP601090308.html (maintaining that only three percent of patents ever recoup the cost of obtaining them); Don Lancaster, *The Case Against Patents,* The Blatant Opportunist, Nov.–Dec. 1990, http://www.tinaja.com/glib/casagpat.pdf (asserting that only one in one hundred patents show a positive cash flow).

[56]A great majority of these expenditures were for vanity and marginal patents that will never be contested. *See*, *e.g.*, John R. Allison et al., *Valuable Patents*, 92 Geo. L.J. 435, 440–41 (2004) (noting that most patents are worth very little to their owners, based on the fact that their owners can't even justify the payment of relatively modest maintenance fees); Lemley, *supra* note 53, at 1503–08.

value be shifted to disputants and the judicial system.[57] While this approach is economically rational for the PTO, it has substantial ramifications for patent litigants. Patent litigation itself is likely to be costly[58]—often resulting in the awarding of large judgments[59] or a judicial defeat resulting in loss of the patent or patent value.

Patent litigation outcomes often determine a small company's future viability. Some small-entity inventors have adopted a business model that relies almost entirely on revenue generated from licensing fees because they may not have the ability themselves to deliver large-scale service. Burst.com (Burst) is a good example. Burst holds patents on technologies that deliver video content in bursts rather than as real-time streams.[60] The advantage of Burst's technology over streaming video is that broadcasters can deliver much higher quality content over the Internet with few or no interruptions in the broadcast. Burst sold its software to Internet broadcasters including RealNetworks. A 2001 Microsoft upgrade of its Media Player allegedly disabled the Burst software. Moreover, Media Player appeared to infringe Burst patents.[61] Burst asked Microsoft for a licensing

---

[57]The nonobviousness requirement is frequently the subject of most patent conflict disputes. For example, in a case involving the automotive industry, *Teleflex v. KSR*, an inventor received a patent on two off-the-shelf technologies that had never been combined previously. *See* Teleflex Inc. v. KSR Int'l Co., 298 F. Supp. 2d 581 (2003), *vacated and remanded*, 119 Fed. Appx. 282 (Fed. Cir. 2005), *cert. granted*, KSR Int'l v. Teleflex, 126 S. Ct. 2965, 2006 WL 1725628 (Jun. 26, 2006). While both technologies apparently were well known in the industry and not patent protected, the combination nonetheless was sufficiently novel to convince the patent examiner to grant the patent. However, in litigation, a district court concluded that the combination was not nonobvious in granting the defendant's motion for summary judgment. 298 F. Supp. at 596. The Federal Circuit reversed, citing the necessity of using the so-called "suggestion-teaching-motivation" test to judge obviousness. 119 Fed. Appx. at 285. The Supreme Court has agreed to review the vapid constraint of the nonobvious standard in this case. *See* KSR Int'l v. Teleflex, 126 S. Ct. 2965, 2006 WL 1725628 (Jun. 26, 2006).

[58]*See*, *e.g.*, Lee Burgunder, Legal Aspects of Managing Technology 80 (2004).

[59]"[T]he court may increase the damages up to three times the amount found or assessed." 35 U.S.C. § 284 (2000). The Code does not provide guidelines for awarding treble damages, leaving discretion entirely to the court. Typically, treble damages are awarded when the defendant flagrantly disregards the patentee's rights. *See* Read Corporation v. Portec, Inc., 970 F.2d. 816 (Fed. Cir. 1992).

[60]*See Underdog or Patent Troll?* BusinessWeek online, Apr. 24, 2006, http://www.businessweek.com/magazine/content/06_17/b3981070.htm.

[61]*Id*.

agreement, but Microsoft allegedly rejected its request.[62] Burst sued Microsoft for patent infringement, and the two parties settled in 2005 for $60 million. In the process Burst almost went bankrupt. Microsoft, one of the most vocal opponents of patent trolls,[63] agreed to settle only after evidence surfaced that it may have destroyed relevant evidence.[64] Absent this settlement, Burst very likely would not have survived.[65]

Such disputes can have significant ramifications even for large companies and their customers. Another Microsoft patent infringement dispute illustrates this dynamic. Eolas Technology, a corporate spin-off of the University of California, received a $565 million damage award in district court.[66] The patent infringement action alleged that Microsoft's Internet Explorer browser infringed on Eolas' patents, which cover the way multimedia objects are embedded in Web pages. On appeal, the Court of Appeals for the Federal Circuit vacated the judgment and remanded the case back to the district court for further deliberation.[67] The Federal Circuit affirmed the infringement ruling but found error in the validity determination.[68] The Federal Circuit temporarily relieved Microsoft of the obligation to pay the judgment. However, by leaving the district court's infringement ruling intact, Microsoft and the multitude of companies that rely on Internet Explorer were left with considerable uncertainty about the validity of the browser. As a result, Microsoft has initiated significant changes to the operation of Internet Explorer in case Microsoft loses its challenge to the validity of Eolas' patents.[69] These changes will require the many developers and companies that rely on Internet Explorer to rewrite

---

[62]*Id*.

[63]*See* McCullagh, *supra* note 15. Microsoft claims that it faces thirty-five to forty patent infringement lawsuits annually.

[64]*See Underdog or Patent Troll?*, *supra* note 600.

[65]The revitalized Burst, believing that the settlement vindicated its rights, subsequently demanded a licensing agreement from Apple Computer Corp. *Id*.

[66]*See* McCullagh, *supra* note 15.

[67]Eolas v. Microsoft, 399 F.3d 1325, 1341 (Fed. Cir. 2005), *cert. denied*, 126 S. Ct. 568 (2005).

[68]*Id*.

[69]*See* Ryan Naraine, *Microsoft Bows to Eolas, Revamps IE's Multimedia Handling*, eWeek.com, Dec. 2, 2005, http://www.eweek.com/article2/0,1895,1895907,00.asp.

their software to accommodate Microsoft's changes.[70] Thus, regardless of the final outcome of the litigation, thousands of users have been or will be forced to adjust their use of the Internet due to the Eolas–Microsoft patent dispute.

III. Political-Economic Analysis of Copyright and Patent Law Changes

This part examines the intellectual property policy-making process employing theory from political economics in which interest groups use their resources to influence legislation and other government actions. After a brief review of this theory, this part analyzes how different interest groups influence the development of copyright and patent law. It concludes with an examination of current efforts to reform patent law to address the patent troll problem.

A. The Political Economy of Interests-Based Politics

Economic modeling can be an effective method of understanding the divergent interests that are shaping copyright and patent law. The analysis assumes that both copyright and patent holders are self-interested, profit-maximizing firms. As such, they pursue legal strategies that maximize intellectual-property-related revenues.[71] Available strategies include influencing legislative and regulatory bodies to pass legislation and take regulatory actions that advance the interests of intellectual property holders.

In order for firms to exert influence on political actors, they must be able to supply something that political actors value. George Stigler posited that government officials, like firms, are motivated by self-interest.[72] Government officials wish to remain in office or maximize their post-political-regulatory career income. Politicians stay in office by taking actions that maximize their votes in future elections. Firms exploit the interests of political actors in several ways including contributing to campaigns, offering

---

[70]*See* Robert McMillan, *Microsoft Offers an ActiveX Reprieve,* PCWorld, Jun. 15, 2006, http://www.pcworld.com/news/article/0,aid,126108,00.asp.

[71]This standard assumption is also employed in Landes and Posner's analysis of intellectual property law. Landes & Posner, *supra* note 17, at 71–73.

[72]George J. Stigler, *The Theory of Economic Regulation*, 2 Bell J. Econ. & Man. Sci. 3, 4 (1973).

bribes, and implicitly offering positions or opportunities to politicians after their retirement from public office.[73] The implicit, and sometimes explicit, quid pro quo of this arrangement is that politicians take actions that advance the interests of regulated firms who provide the politicians with the most resources. It follows that the interest groups with the greatest resources receive legislation and regulations that advance their interests.[74]

James Q. Wilson found this explanation to be overly simplistic and, consequently, proposed an enhanced model.[75] In Wilson's model, well-resourced firms fare well, but not always. Wilson theorized that there are both benefits and costs to political actions. The impact of benefits and costs can be either distributed broadly over several interest groups or narrowly.[76] When benefits or costs are distributed broadly, affected groups have little incentive to push for political action because they face little perceived gain. However, they do have incentives to act when costs and benefits are narrowly focused.

The most interesting situations involve the narrow concentration of benefits or costs on a small number of groups. Wilson labels one such case with highly concentrated benefits but highly distributed costs as "client politics."[77] Incentives to organize and exert influence to extract benefits are high for the highly affected groups. Correspondingly, the political costs associated with producing the benefits are distributed so broadly that the cost that any individual faces is extremely small. Thus, it is not rational for an opposition group to form or mobilize if the mobilization costs exceed the potential gain from opposition. In such cases, political actors benefit by serving the interests of the influence group who receives the concentrated benefits. Serving these interests satisfies the influence group without producing significant political opposition. Pork-barrel projects typically fall into this category. The 1998 extension of the U.S. copyright term by twenty years is an additional example.[78] A few large content holders stand to

---

[73]*Id*.

[74]*Id*.

[75]Wilson, *supra* note 10.

[76]*Id*. at 366–67.

[77]*Id*. at 369.

[78]17 USC § 302 (2005).

benefit dramatically from the extension, whereas the costs, which fall on all consumers, are widely distributed.[79]

A second case of high political activity occurs when *both* benefits and costs of political action are narrowly concentrated. Wilson calls this situation interest-group politics.[80] When there are multiple interest groups with conflicting interests, it is difficult to predict the outcome. Political actors may be reticent to address the concerns of one group out of fear of antagonizing the group that must bear the costs. The proposed, and as yet unenacted, Consumer Broadband and Digital Television Promotion Act provides an excellent example of interest-group politics.[81] Powerful content holders such as Disney and major music and film companies favored this bill, which would require manufacturers of electronic devices that deliver or hold digital media to incorporate copy-protection technology in their products.[82] Content holders favored the bill because it provided them with an inexpensive way of protecting their intellectual property.[83] Predictably, many large electronics manufacturers opposed passage of the bill.[84] Electronics companies would bear the costs of these narrowly concentrated benefits by incurring the costs of adding the protection to their products and losing customers who do not wish to accept the added restrictions. The inability of Congress to pass this bill is likely due to the near-equal strength of the two conflicting sides.

Thus, in Wilson's model of political behavior, political actors are more likely to support the interests of a company or industry that benefits significantly from political action costs that are broadly distributed. When both benefits and costs are narrowly focused the analysis is more complex and may depend on the relative skills of the interest groups and their

---

[79]*See, e.g.*, Damian Yerrick, *The Sky is Falling: The Pillage of the Public Doman,* LOSINGNEMO.COM, http://www.pineight.com/nemo/bono.php (last visitied Jul. 1, 2006) (arguing that the copyright term extension benefits only two percent of all copyright holders while imposing costs on the entire public).

[80]WILSON, *supra* note 10, at 368.

[81]Consumer Broadband and Digital Television Promotion Act, S. 2048, 107th Cong. (2002).

[82]*See* John Borland, *Antipiracy Bill Finally Sees Senate,* CNET NEWS.COM, Mar. 21, 2002, http://news.com.com/2100-1023-866337.html.

[83]*Id.*

[84]*Id.*

ability to mobilize public support.[85] In the analysis that follows, content holders are often interest groups who seek political action that provides them with narrowly focused benefits. Their ability to achieve their desired results depends on the strength of groups opposing their interests, which is a function of the costs that befall those groups.

B. Copyright Strategic Analysis

This section examines the strategic tools content holders employ to influence the development of copyright law and policy to advance their interests. These tools, employed with less than complete success, include litigatiion, regulation, and technology. As an illustration and to put current efforts to reform patent law in perspective, this section examines content holder actions that led to enactment of the DMCA, perhaps the most pro-content holder legislation adopted by Congress in the past decade.

1. Content-Holder Interests

The primary focus of this subsection's analysis is how copyright holders influence legislative and political actions for their own benefit. Therefore, it is necessary to have a basic understanding of copyright holders' interests. This analysis assumes that firms maximize profits. For copyright holders, profit depends on the price obtained for each unit sold, production costs, the loss from units that are not sold due to unauthorized consumption of the holder's intellectual property, and the transactions costs incurred from enforcing their rights. Clearly a major determinant of profit is the underlying demand for the creative work. Blockbuster films, the Harry Potter book series, and other very popular works generate substantial demand.[86] Items with higher demand can command higher prices. By contrast, other creative works have much lower demand and, therefore, much lower profit-making potential. A textbook or academic paper, while perhaps of

---

[85]Professor Wilson identifies other permutations of the benefit–cost nexus in his political model. One permutation occurs when benefits are distributed and costs are narrowly focused. In such a case a skilled entrepreneurial actor may be able to get political action passed over the opposition of the affected interest group. Wilson, *supra* note 10, at 370.

[86]The top twenty grossing films each have garnered in excess of $300 million at U.S. box offices. *All-time USA Boxoffice,* IMDb, http://www.imdb.com/boxoffice/. One source estimated the value of the Harry Potter brand to be in excess of $1 billion. Tomas Kellner, *Harry Potter and the Billion-Dollar Brand,* MSNBC, Mar. 14, 2005, http://www.msnbc.msn.com/id/7182112/.

great intrinsic value, will have a much more limited market demand. Nonetheless, the revenue for most types of creative works is affected by losses from unauthorized use. Textbook and academic journal copyright owners both suffer losses due to unauthorized use.[87] However, the pecuniary losses are much less than those suffered by owners of mega creative works.

The Recording Industry Association of America (RIAA) claims that its members have lost nearly a third of their sales between 1999 and 2002.[88] Although these figures may be exaggerated, because not all unauthorized users would have purchased creative works if they had not been available over the Internet, certainly some of these unauthorized uses represent lost sales.[89] When creative works are available on the Internet, copyright owners lose sales unless they adopt a strategy to prevent it. One continuing strategy has been an effort to convince the public that unauthorized copying is criminal through ongoing education and information programs.[90] Given that consumers are self-interested and rational, it is not surprising to find that this type of persuasion has been generally ineffective.[91] The rational consumer downloads an unauthorized copy of a wanted creative work provided the marginal cost of downloading the work plus the expected cost of detection are less than the price of the work. With a very low probability of detection, the only deterrent to copying is an ethical imperative against engaging in the proscribed behavior. However, ethics has not been a major deterrent. Unauthorized file sharers rationalize their behavior as fair use or sampling music before purchase.[92]

---

[87]The losses are often overstated because they count each instance of piracy as a lost sale. However, although some instances are undoubtedly lost sales, many pirates are people who are unwilling to purchase the good at the going price. *See* LANDES & POSNER, *supra* note 17, at 47.

[88]*See* Jon Newton, *Big Music Is Devastated: RIAA,* MUSIC DISH, Mar. 7, 2004, http://musicdish.com/mag/index.php3?id=9338 (pegging the loss at thirty-one percent).

[89]*See* LANDES & POSNER, *supra* note 17, at 47.

[90]*See, e.g., Online Film Piracy "Set to Rise,"* BBC NEWS, Jul. 9, 2004, http://news.bbc.co.uk/1/hi/technology/3879519.stm (reporting that the Motion Picture Association of American had launched a global campaign to teach the public that piracy is a crime); RIAA, *What the RIAA is Doing About Piracy,* http://www.riaa.com/issues/piracy/riaa.asp (outlining the RIAA's antipiracy steps, which include monitoring, litigation, and education).

[91]*See One in Three Music CDs is Stolen,* CNNMONEY.COM, Jun. 24, 2005, http://money.cnn.com/2005/06/24/news/international/music_piracy/ (reporting that the global black market for stolen music CDs grew to $4.6 billion in 2004).

[92]*See, e.g.*, BMG Music v. Gonzalez, 430 F.3d 888, 889–90 (7th Cir. 2005) (the defense asserting unsuccessfully that unauthorized downloading was a fair use means of sampling music before purchase).

Thus, for many music consumers, there simply is too little deterrence to induce them to stop downloading creative works.

Without the ability to deter unauthorized circulation of creative works, content holders are forced to rely on a combination of litigation, government regulation, and technology to limit losses from digital freeloaders. A purely litigious approach is very difficult to enforce. It is impossible to prosecute every digital pirate when there are millions of people downloading creative works illegally.[93] In order to successfully deter such behavior, it is necessary to choose an enforcement strategy that reduces the expected return from engaging in illegal activity to a negative value. If the consumer return, R, from downloading is positive, then the expected penalty from illegally downloading creative works must be greater than R. If q is the probability of punishment and F is the fine exacted when caught, then a necessary condition to discourage illegal downloading is $qF \geq R$.

The problem is that the probability of punishment is extremely small. Because legal action against end users was slow in developing in this area, qF was and remains very close to zero.[94] The RIAA's approach of targeting large violators leaves most casual file sharers with little chance of being subpoenaed.[95] Therefore, when the probability of punishment, q, is very low the only way for qF to exceed R is for F to be extremely large. When q is close to zero, it follows that the fine must approach infinity. Such fines would be considered immoral as well as unconstitutional. While the lawsuits are likely to deter many risk-averse and uninformed file sharers, the inability of the RIAA to impose a significant penalty on illegal file sharers means that most file sharers will continue to benefit from engaging in

---

[93]A Pew Internet Project report pegs the number of illegal file sharers in the United States alone at roughly eighteen million. *See* MADDEN & RANIE, *supra* note 48.

[94]In 2003 the music industry initiated a concerted effort to prosecute illegal file sharers by suing four college students. Scott Carlson, *Recording Industry Sues 4 Students for Allegedly Trading Songs Within College Networks,* CHRON. OF HIGHER EDUC., Apr. 4, 2003, http://chronicle.com/free/2003/04/2003040401t.htm. The students, who settled for amounts ranging up to $17,000, had transferred between 27,000 to over one million music files. *See* Liane Cassavoy, *Music Labels Declare War on File Swappers,* PCWORLD, Sept. 8, 2003, http://www.pcworld.com/news/article/0,aid,112364,00.asp.

[95]*See, e.g.*, *How Not to Get Sued by The RIAA for File-Sharing,* ELECT. FRONTIER FOND., http://www.eff.org/IP/P2P/howto-notgetsued.php (last visited Jul. 1, 2006) (conjecturing that the RIAA appears to target users who allow their computers to be supernodes for services such KaZaA and Morpheus). For more on nodes and supernodes, see *supra* note 46.

illegal sharing. Thus, litigious approaches to stemming losses from file sharing have been and likely will continue to be ineffective.[96]

The use of technological measures to deter illegal file sharing includes copy-protection schemes, encryption, hardware-based devices, and password protection.[97] Software-based measures tend to provide the most flexibility, but many consider them to be less reliable than hardware-based schemes.[98] On the other hand, hardware-based approaches also have significant drawbacks. They may be built into electronic equipment or consist of a key, dongle, card, or CD that must be attached to a computer or media player before the consumer can use the creative work.[99] Such methods tend to be more expensive to implement and consumers resist using them due to their inconvenience and intrusive nature[100] because they may occupy a valuable input-output port, be easily lost, or may have a life span that is not aligned with that of the protected work.[101] Thus, the inclusion of hardware digital rights management (DRM) is not only more costly for the content holder, but it is also more costly to the consumer. These costs lower the consumer's enjoyment of the product. Given the choice between two products of similar intrinsic value, one with a hardware DRM system, the other without, the consumer is likely to choose the product without the

---

[96]*See, e.g.*, Rafael Rob & Joel Waldfogel, *Piracy on the High C's: Music Downloading, Sales Displacement, and Social Welfare in a Sample of College Students*, NBER Working Paper No. W10874 (2004) (providing data that suggests downloading reduces revenue from album sales far less than the gain students receive from the illegal activity); Thomas Karagiannis et al., *Is P2P Dying or Just Hiding?*, *in* Proceedings of the Globecom 2004 Conference (2004) (providing empirical evidence that peer-to-peer file sharing continues to be robust despite efforts to limit it).

[97]*See* Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 308 (S.D.N.Y. 2000), *aff'd*, Universal City Studios, Inc. v. Corley, 273 F.3d 429 (2d Cir. 2001).

[98]*See* Spencer Cheng et al., *Trusting DRM Software*, Jan. 2001, http://www.w3.org/2000/12/drm-ws/pp/cloakware.html.

[99]*Id.*

[100]*Id.*

[101]*Id.* For example, a hardware key that wears out too soon or is not compatible with a replacement computer renders the validly licensed software product useless. One commentator complains about a hardware key requiring insertion into an obsolete port. Although his replacement computer was capable of running the existing software, he had no way to satisfy the software's demand for the hardware key. Peter Seebach, *The Cranky User: And in This Corner: Copy Protection Versus Usability*, Jun. 6, 2003, http://www-128.ibm.com/developerworks/web/library/wa-cranky29.html.

DRM system. Hence, hardware DRM places a particularly significant downward pressure on content holders' revenues.

2. Pre-DMCA Political Activity

The interest group with the most to gain from securing digital media was the motion picture industry. During the early to mid 1990s, the motion picture industry along with major electronics manufacturers sought to take advantage of digitalization by creating the video equivalent of the audio CD, the Digital Versatile Disc (DVD).[102] The profit potential for this initiative was staggering. If the DVD proved to be as successful as the CD, the motion picture industry would make hundreds of millions of dollars at very little cost simply by reissuing selections from their voluminous libraries.[103] However, the coalition wanted to secure their gains by avoiding the inherent insecurity of the CD format. Backers of the nascent DVD format opted to pursue a combined legislative–hardware solution through the proposed Digital Video Recording Act.[104] To prevent perfect digital copying, this Act required all manufacturers of electronic devices to build in copy control flags in devices capable of playing DVDs.[105]

What appeared to be a client politics issue quickly turned into an interest-group politics standoff. The motion picture industry quickly reached an agreement with consumer electronics manufacturers to include copy control flags. However, the broadly drafted Act caused concern in the computer industry. The initiative would have required extensive changes to computer software and hardware to prevent the transfer of digital images between disks.[106] Moreover, such changes would dramatically reduce the efficacy of computers for media workers and consumers. The computer industry feared that the initiative would likely bar the transfer of photographic images and legitimate video applications such as home movies and in-house company video productions. As a result the

---

[102]Jeff Sharp, *Coming Soon To Pay-Per-View: How The Digital Millennium Copyright Act Enables Digital Content Owners to Circumvent Educational Fair Use*, 40 Am. Bus. L.J. 1, 25–26 (2002).

[103]*Id.*

[104]*Id.*

[105]*Id.*

[106]*Id.*

computer industry fiercely resisted implementation of the proposed Act. In the end, the Act was never adopted.[107]

The movie industry temporarily dropped the legislative approach and opted to pursue a technological approach called Content Scrambling System (CSS) to protect digital films.[108] CSS, while designed to limit unauthorized copying, also provided a vehicle for enhancing the profitability of new releases by addressing gray market[109] losses and facilitating price discrimination. CSS allows regional encoding of DVDs. The coding concept divided the world into six regions with the United States and Canada in region one, Europe and Japan in region two, and so on.[110] DVD machines sold in different regions are hard-coded to play only DVDs produced for that region.[111] For example, DVDs encoded for Chinese markets are not easily sold in the United States due to their incompatibility with hardware sold in the United States.[112] This system specifically addresses the gray market problem. Although it is possible to purchase DVD players that play DVDs from multiple regions, these machines are not widely available in the United State and may have problems playing some DVDs.[113] Thus, regional coding substantially reduces the gray market arbitrage opportunity by reducing the value of foreign goods resold in the United States. In addition to limiting gray market sales, regional coding

---

[107]*Id*. at 27.

[108]*Id*.

[109]The gray market problem generally refers to the placement of new goods in a market without the consent or approval of the manufacturer or rights holder. *See* Elin Dugan, *United States of America, Home of the Cheap and the Gray: A Comparison of Recent Court Decisions Affecting The U.S. and European Gray Markets,* 33 Geo. Wash. Int'l L. Rev. 397, 397 (2004). Frequently, gray-market transactions involve the importation or reimportation of legally manufactured goods from one country to another. *See* Larry A. Dimattteo & Lucien J. Dhooge, International Business Law: A Transactional Approach 471–52 (2d. ed. 2006); Lawrence M. Friedman, *Business and Legal strategies for Combating Grey-Market Imports*, 32 Int'l Lawer 27 (1998).

[110]*See* Sharp, *supra* note 102, at 28 n.110. There are actually nine regional codes. Region zero DVDs are unprotected and can play on any machine, seven is currently reserved and region eight is reserved for cruise ships, airplanes, and other specialty uses. *See DVD Region FAQ,* Toho Kingdom, http://www.tohokingdom.com/web_pages/dvd/region_faq.htm (last visited Jul. 1, 2006).

[111]Some DVD player/recorders allow users to change the region setting, typically, a limited number of times. *See DVD Frequently Asked Questions (and Answers),* DVD Demystified, Feb. 10, 2005, http://dvddemystified.com/dvdfaq.html.

[112]*Id*.

[113]*Id*.

has the additional benefit of allowing the staggered release of creative works.[114] Using regional coding, it is possible to release a film on DVD in one region while the film is still in theaters in another region.[115] This flexibility allows creative rights holders to extract a greater return than if they had to treat the entire world as a single market.[116]

However, the film industry and content owners were not satisfied with this purely technical solution. While it solved the problem of delivering film on DVD securely, the industry was very much concerned about the potential for digital piracy over the nascent Web. The consumer's limited right under the fair use doctrine to copy protected works for limited and specific purposes was a particular target.[117] It has been suggested that content owners were pursing an extreme goal in this regard. According to Pamela Samuelson, content holders would have all uses available only through license or sale:

> [T]here is no piece of a copyrighted work small enough that they are uninterested in charging for its use, and no use private enough that they aren't willing to track it down and charge for it. In this vision of the future, a user who has copied even a paragraph from an electronic journal to share with a friend will be as much a criminal as the person who tampers with an electrical meter at a friend's house in order to siphon off free electricity.[118]

Other supposed objectives of content owners for amending copyright law for the digital age included: (1) redefining digital transfers and transmissions as copies distributed to the public, (2) eliminating the right of consumers to resell digital content that they had purchased, (3) attaching DRM technology to all digital content, and (4) assigning responsibility to Internet service providers (ISPs) for managing and policing copyright-related activities of subscribers. The final step was to get this wish list enacted into law by Congress.[119]

---

[114]*See* Sharp, *supra* note 102, at 28 n.110.

[115]*Id*.

[116]Staggered releases allow studios to customize marketing schemes for different countries and reuse expensive film prints in different locations. *See* Adam Groves, *DVD Coding: Bullshit in Any Region,* http://www.fright.com/edge/dvdcoding.html (last visited Jul. 1, 2006).

[117]The Supreme Court, in the cornerstone "Sony Betamax" case, validated consumers' fair use right to copy video for subsequent viewing. Sony Corp. of America v. Universal City Studios, 464 U.S. 417, 456 (1984).

[118]Pamela Samuelson, *The Copyright Grab*, 29 U. West. L.A. L. Rev. 165, 168 (1998).

[119]*Id*.

The genesis of copyright revision efforts in the 1990s, at first blush, appeared to be an example of client politics.[120] President Clinton convened a National Information Infrastructure task force soon after entering office. The task force produced a White Paper in 1995, which contained proposals for revising the Copyright Act for digital content.[121] Bruce Lehman, Assistant Secretary of Commerce and U.S. Commissioner of Patents and Trademarks at the time (and a former industry lobbyist), was chair of the working group and in charge of shepherding the working group's proposals through the legislative process.[122] The White Paper proposals were characterized as modest. White Paper advocates asserted that current copyright law was sufficient and just needed fine-tuning.[123] House Bill H.R. 2441 and Senate Bill S. 1284 were introduced with bipartisan support under the belief that passage would be uncontroversial.[124]

However, the copyright amendments were not uncontroversial and an interest-group politics battle ensued. ISPs complained about being held responsible for infringing activities of subscribers and the working group's assertion that digital transmissions using their services was unauthorized copying under copyright law. Academicians, librarians, and public interest groups were alarmed by what they considered to be a direct assault on the fair use exemption.[125] These groups all aired their concerns before Congress. ISPs consisting of many large telecommunications firms, educational institutions, and dot-com companies, such as America Online, were the types of voices that likely influenced Congress. They were well-funded and organized groups that would bear the concentrated costs produced by the White Paper proposals. Their resistance was sufficient to counteract content holders' attempt to garner the concentrated benefits associated with amending copyright law. Congress, observing the conflict, opted not to act.[126]

---

[120]Jeff Sharp provides a nice narrative of the relevant events. *See* Sharp, *supra* note 102, at 19–33.

[121]*Id*. at 30.

[122]*See* Samuelson, *supra* note 118, at 167.

[123]*See* Edward Samuels, The Illustrated Story of Copyright 110–11 (2000).

[124]*See* Samuelson, *supra* note 118, at 167.

[125]*See* Samuels, *supra* note 123, at 111.

[126]*Id*.

Content holders, having so much to gain, shifted their fight to the international arena. The Clinton administration was instrumental in adding digital copyright issues to the WIPO agenda.[127] WIPO, with a very strong pro-commerce focus, was receptive to the demands of the international film, music, and publishing industries to acquire weapons against the escalating piracy problem.[128] Thus, it is unlikely that WIPO received significant feedback from noncommercial interests. In December 1996, WIPO adopted two treaties, the WIPO Copyright Treaty[129]and the WIPO Performances and Phonogram Treaty,[130] to address digital copyright issues. The United States took the position that its laws were already in substantial compliance so only minor adjustments were necessary.[131] The Clinton administration, with the strong backing of content owners, packaged the revisions to Congress as minor in nature and intended to bring the law into conformance with the new international treaties.[132]

Instead, the result of the ensuing process was the passage of the DMCA. In essence, the process of interest-group politics was circumvented by the exploitation of an international forum predisposed to the interests of content holders. The confluence of this favorable forum, a highly supportive presidential administration, and a nascent digital era contributed to creating the momentum needed to pass the DMCA despite the existence of organized interest groups subject to incurring concentrated costs from its passage.[133] The DMCA provided content holders with many of the

---

[127]*Id*.

[128]*See* Sharp, *supra* note 102, at 31.

[129]*See* Copyright Treaty, *supra* note 14.

[130]*See* Performances Treaty, *supra* note 14.

[131]*See* SAMUELS, *supra* note 123, at 111.

[132]In fact, Congress received a bill that was, "sixty tightly packed, single-spaced pages of definitions, clarifications, exceptions, and highly regulatory language that were nearly incomprehensible to most readers." *Id*. at 112.

[133]Non–content holders bear the costs of these limitations in the form of reduced access to copyright and non-copyright-protected works and reductions in the exercise of fair use. *See, e.g.,* Sharp, *supra* note 102, at 39–40 (observing that the DMCA subordinates fair use rights to its anticircumvention provisions).

provisions detailed in the White Paper and previously defeated by opposition from impacted interest groups.[134]

The costs incurred by the passage of the DMCA have led to increased vigilance of content holders' efforts to enhance legislative protections.[135] Interest-group political conflicts in copyright will continue because content holders will continue to push Congress for additional protections against losses. The music industry, in particular, has received little benefit from the DMCA. Most music CDs are not access controlled like DVDs or copy protected, so they are not entitled to protection under the DMCA.[136] Unprotected CDs are easily copied subjecting, the music industry to large-scale piracy of its works.

The solution adopted by the film industry of releasing films on a new, more secure platform is not available to the music industry.[137] The probability that consumers will adopt next-generation DVDs is quite high because the new products deliver a perceptibly better product. Hi-Def and Blu-Ray DVDs deliver a product that has noticeably superior resolution to

---

[134]One of the major concessions was the creation of safe harbor provisions for ISPs that immunized them from liability for direct and contributory infringement liability. 17 U.S.C. § 512 (2000). However, to avoid liability, the ISP must remove unauthorized copyrighted materials stored on its server on request from impacted content owners. 17 U.S.C. § 512(b)(2) (2000).

[135]*See, e.g.*, Electronic Frontier Foundation, *The Broadcast Flag and "Plug & Play": The FCC's Lockdown of Digital Television,* www.eff.org/IP/Video/HDTV/(last visited June 1, 2006) (recounting how Electronic Frontier Foundation protests foiled an attempt by content holders to get Congress to enact legislation requiring the inclusion of a "broadcast flag" to prevent recording of digital media to high-definition television).

[136]A few companies have released audio CDs with DRM, but the results have not always been positive for the recording industry. *See*, *e.g.*, Tom Zeller, *Sony BMG Stirs a Debate over Software Used to Guard Content*, N.Y. Times, Nov. 14, 2005, at C.1 (describing the problems Sony encountered after installing copy protection software on nineteen CD titles).

[137]Producers of next-generation, high-definition DVDs have developed a protection scheme with the appellation, "High-Bandwidth Digital Content Protection" (HDCP) to protect its content. To avoid repeating CSS problems, the coalition has attempted to lock down every potential breach to the new DVD security system before releasing any content. Their caution is such that pre-2006 video cards and LCD monitors are incapable of displaying commercial high-definition DVD content. It is impossible to build your own personal computer with pre-2006 off-the-shelf parts that will display high-definition DVD content. However, industry representatives believe that compatible components will be available for build-it-yourself fans once HDCP specifications are finalized. *See* Ken Fisher, *The Truth Behind HDCP and Video Card Support,* Ars Technica, Feb. 14, 2006, http://arstechnica.com/news.ars/post/20060214-6177.html.

regular DVDs and hold much more content.[138] By contrast, there appears to be little demand for delivery of better sounding music. The iPod and iTunes generation of music lovers appear to be content with highly compressed music.[139] Thus, it is unlikely that the music industry can control or limit end-user piracy by persuading consumers to adopt a new secure format. Instead, the music industry is likely to seek federal legislation to provide a solution to its piracy problem.

One likely approach is for content holders to push for legislation that requires electronic equipment to include technology in hardware and software that identifies individuals who place creative content on the Web.[140] The anonymity that file sharers enjoy is one of the biggest roadblocks to detection and enforcement. It is very difficult to track and prosecute individuals who file share due to the design of the Internet.[141] A possible legislative approach would be to increase the liability of ISPs whose servers contain files that have been copied without permission. This would likely result in the implementation of technology that would stamp a file with a unique identifier every time it is transferred from one computer system to

---

[138]Current DVDs output pictures at 480 lines progressively (480p). Blu-ray and high-definition DVDs are capable of outputting signals up to 1080p, a substantial improvement over traditional DVDs. *See* Bill Howard, *Your Hi-Def PC,* PCMag.com, Aug. 3, 2005, http://www.pcmag.com/article2/0,1895,1843341,00.asp. The capacities of HD and Blu-Ray DVDs, respectively, are thirty and fifty gigabytes compared to roughly nine gigabytes for regular DVDs. *See* Rodolfo La Maestra, *2005 HDTV Report, Part 11: High Definition DVD,* HDTV MAG., Oct. 20, 2005, http://www.hdtvmagazine.com/articles/2005/10/2005_hdtv_repor_10.php?-page=4.

[139]*See, e.g.,* Thomas J. Norton, *Viewpoint: How Much, How Fast, How Legal?* ULTIMATE AV, Apr. 2005, http://ultimateavmag.com/thomasjnorton/405tjn/(observing that "[m]ost [digital music] users seem happy with low-resolution MP3 files").

[140]Computer central processing units (CPUs) currently have the ability to uniquely identify the machine that they are installed in. However, computer manufactures deliver these machines with this feature turned off. *See* Daniel Rubin, *Intel Backs Off, Disables Pentium ID Feature,* PCWORLD, Jan. 25, 1999, http://www.pcworld.com/news/article/0,aid,9497,00.asp.

[141]File sharing networks intensify the problem by designing their networks so that tracking is extremely difficult. *See, e.g., A Survey of Anonymous Peer-to-Peer File-Sharing,* http://www.lix.polytechnique.fr/ ~ tomc/P2P/index.html#Systems. (containing descriptions, links, instructions, and software for the purpose of maintaining anonymity when working with peer-to-peer networks). However, even though these networks are designed to be anonymous, trackers have been successful in tracking and prosecuting illegal users on some of these networks. *Id.*

another.[142] This approach would also require that the definition of ISP be revised to include anyone whose computer contains files that are available for Internet sharing. This approach would dramatically reduce the costs of enforcing digital intellectual property rights. The cost of proving infringement would drop dramatically because the identification system would create a way of tracking the users. Being able to track almost everyone involved in sharing files would allow content holders to take action against even occasional file sharers. In addition to lower enforcement costs, the ability to identify all Internet users engaged in file sharing would allow content holders to dramatically increase the probability of punishment. This increased probability of punishment would increase compliance and, in turn, profits.[143]

Successful passage of such an initiative depends on the costs imposed on affected interest groups. Generally, it is difficult to organize consumers to oppose legislation because consumer costs are highly distributed. However, organizations concerned with privacy issues would likely mobilize against such legislation. An historical example involved Intel and its microchips. Intel, the leading manufacturer of computer CPUs, previously built into its Pentium III chips an automatic computer identification feature that businesses requested to authenticate online transactions.[144] Each CPU would transmit a unique identifier each time the computer user engaged in an Internet transaction. However, privacy groups quickly mobilized and, by threatening a broad-based boycott, forced Intel to ship the chip with the feature turned off as the default.[145] In addition, electronic equipment manufacturers would oppose any legislation that requires them to add technology such as a broadcast flag to equipment that reduces the value of their products to consumers without a concomitant consumer

---

[142]Current approaches to catching Internet pirates rely on tracking traffic in illegal file sharing and identifying participants in such transactions. *See, e.g.*, Sonia K. Katyal, *The New Surveillance*, 54 Case W. Res. L. Rev. 297, 340–51 (2003) (referring to procedures used to fight online piracy, "[a]ll of these strategies have one thing in common: they rely upon online surveillance to monitor potential copyright infringement of music, film, and software"). Clearly, a requirement to automatically stamp or uniquely identify the source of files circulating over the Internet would reduce or preclude the need to subpoenas ISP records or use Web crawlers to track file movements currently used to combat piracy. *Id*.

[143]*See supra* notes 93–96 and accompanying text.

[144]*See* Rubin, *supra* note 140.

[145]*Id*.

benefit.[146] Legislation that imposes tracking requirements on electronic equipment manufacturers would be that type of legislation.

Whereas content holders have received significant support through laws such as the DMCA, existing legislation does not provide a complete solution because Internet pirates are still able to rely to a large extent on anonymity. Anonymity not only makes it difficult to identify unauthorized file sharers, but also increases the costs of prosecuting alleged copyright law violators. However, attacking anonymity legislatively will be exceedingly difficult due to interest-group politics.

C. Patent Strategic Analysis

Interest-group political battles on the patent side are at least as contentious as those spawned in shaping copyright law. However, the probability that an interest group will be able to favorably shape patent law as successfully as copyright content providers did in the 1990s is unlikely. Patent reform differs from copyright law reform in that the goal is not enhanced patent protection but rather limiting the onslaught of "patent trolls" or "consolidators" and implementing controls to limit the approval of "junk patents." Patent troll is a derogatory term applied to small, nonproducing inventors and patent-holding companies that file patent infringement claims against info-tech companies in order to reap big payoffs.[147]

Patent trollers or consolidators are a patent-specific problem. Patented inventions can cover designs that are independently invented, and only the first inventor has a legally protected right to use or exploit the invention.[148] Copyright law protects a particular creative work. Unlike patent infringement, copyright infringement requires exposure to the copyrighted work.[149] On the other hand, patent infringement occurs whenever someone practices the invention claimed in a patent regardless of whether that party independently created the invention or had exposure to or

---

[146]*See supra* note 81 and accompanying text.

[147]*See* Joe Beyers, *Rise of the Patent Trolls,* CNET NEWS.COM, Oct. 12, 2005, http://news.com.com/Rise+of+the+patent+trolls/2010-1071_3-5892996.html.

[148]35 U.S.C. § 102(g) (Supp. II 2002).

[149]*See, e.g.,* Bright Tunes Music Corp. v. Harrisongs Music, Ltd., 420 F. Supp. 177, 180–81 (S.D.N.Y. 1976) (concluding that former Beatle, George Harrison, had subconsciously plagiarized the melody of "He's So Fine" in writing his hit single, "My Sweet Lord").

knowledge of the original.[150] Even if an info-tech company believes that its product does not infringe the subject patent, the potential for an injunction against continued production and the concomitant losses provide incentive to induce the info-tech company to settle an infringement claim.

1. Economic Incentives and Patent Infringement Claims

Not all patent infringement claims against info-tech companies are exploitative. There may be a real controversy as to the validity or applicability of the patent or patents in question.[151] Alternatively, the consolidator's patent may be uncontrovertibly valid, but the info-tech company ignores it as part of a profit-maximizing strategy. If the benefits that the info-tech company receives from using the disputed technology are sufficiently large, the info-tech company may accrue greater returns by refusing to negotiate with the patent holder. The decision to license or use technology without permission depends, among other factors, on the size and demands of the patent holder as well as the value of the technology. A small-entity patent holder may not have the resources to pay for litigation or survive protracted litigation.[152] An alternative for a small company or inventor who does not have the resources to oppose an info-tech company is to sell an interest in its patent to a patent consolidator that is better capitalized.[153] Thus, valid claims that might not otherwise succeed can succeed due to the existence of patent litigation brokers.

Patent consolidators are likely to be companies with fairly sophisticated business strategies. To build their war chests and enhance their

---

[150]35 U.S.C. § 271 (West Supp. 2006).

[151]For example, in a patent infringement dispute between Burst.com and Microsoft Corp., Microsoft agreed to settle for $60 million plus a nonexclusive license. John Borland, *Burst, Microsoft Agree to Settle Suit,* CNET NEWS.COM, Mar. 11, 2005, http://news.com.com/Burst,+Microsoft+agree+to+settle+suit/2100-1030_3-5611028.html. Commentators believe the Burst.com allegations were meritorious. *See, e.g.,* Robert X. Cringely, *Bursted Not Busted,* I CRINGELY, Mar. 17, 2005, http://www.pbs.org/cringely/pulpit/pulpit20050317.html (asserting that Burst.com was victorious even though it settled for much less than pundits expected).

[152]*See* Jeff A. Ronspies, *Does David Need a New Sling? Small Entities Face a Costly barrier to Patent Protection*, 4 J. MARSHALL REV. INTELL. PROP. L. 184, 184 (2004).

[153]*See, e.g.,* Poonam Puri, *Financing of Litigation by Third-Party Investors: A Share of Justice*, 36 OSGOODE HALL L.J. 515, 541 (1998) (recounting how Refac Technologies has developed a business based on investing in and prosecuting disputed patent infringement litigation).

credibility, consolidators often target small to medium-size technology companies before taking on info-tech companies.[154] A medium-size company with limited resources may be unwilling to risk a court battle that could result in a permanent injunction. Therefore, a consolidator's offer to settle for an amount that is less than expected losses from litigation is likely to be favorably received.[155] By stringing together multiple settlements from smaller companies, the consolidator can accumulate sufficient resources to successfully counter the substantial resources that a large info-tech company can bring to litigation. Thus, whereas an individual inventor may have difficulty successfully prosecuting an infringement claim against an info-tech company, regardless of the claim's merits, the consolidator's step-wise approach allows it to stand on near equal footing in infringement litigation.

These infringement claims brought by consolidators represent a significant cost of conducting business for a broad range of technology companies. The high issuance rate for patents makes it difficult for companies to identify all patents that may relate to their products.[156] Identifying all relevant patents increases the cost of product development. However, even when companies attempt to identify implicated patents, the probability of error is high.

Adding to the problem of finding relevant patents is the ease of obtaining patents under the current system. Several commentators believe the nonobvious threshold is set too low.[157] Therefore, companies may include an obvious technology in a product without questioning whether the technology is patent protected. If the company's judgment on obviousness does not agree with the PTO's or a previous court judgment, then an infringement claim is likely to ensue.

---

[154]*See* G. Richard Shell, Make the Rules or Your Rivals Will 195–96 (2004).

[155]For example, Shell recounts the story of Refac International, a patent consolidator during the 1980s. Their strategy was to target a small bank or other company, settle with it, then use the settlement against other targets as evidence of validity. *Id*. at 196.

[156]*See* U.S. Patent & Trademark Office, *supra* note 54.

[157]*See*, *e.g*., John H. Barton, *Nonobviousness,* 43 IDEA 475, 478 (2003) (opining that the nonobvious standard is so low that the ring on a paper coffee cup is subject to patent protection); *The Patent Epidemic,* Businessweek Online, Jan. 9, 2006, http://www.businessweek.com/magazine/content/06_02/b3966086.htm (reporting that the hurdle for passing the obviousness test has been steadily lowered over the past two decades).

While the growth of patent infringement claims is a significant problem, not all technology companies share the resolve to curtail the patent troll problem. Biotech/pharma companies are likely less concerned about infringement claims.[158] The high cost of producing biotechnology and pharmaceuticals substantially reduces the number of companies with sufficient resources to engage in innovation-producing research in biotech/pharma.[159] While it is unclear whether these high entry costs lead to fewer patents, they do limit the universe of companies that can produce innovations and bring patent infringement claims. Moreover, biotech/pharma patents are likely to cover the entire drug, whereas info-tech products may consist of thousands of inventions. Thus, there are almost certainly fewer innovations in biotech/pharma that can trigger patent litigation.[160]

Interestingly, the biotech/pharma industry is a likely interest group that would oppose revisions favored by large info-tech companies. This is because biotech/pharma companies spend hundreds of millions of dollars developing and marketing new products but see positive returns only from a fraction of them.[161] A few large blockbuster products produce the great majority of their revenues.[162] Therefore, the success of biotech/pharma is critically dependent on protecting revenue streams of blockbuster prod-

---

[158]*See* Mark A. Lemley, *Patent Reform Legislation—Public Comments on Substitute H.R. 2795 and the Role of the Antitrust Modernization Commission,* Oct. 24, 2005, http://www.amc.gov/commission_hearings/pdf/Statement_Lemley.pdf ("... innovators in the biotechnology and pharmaceutical industries consider patent protection far more important to their R&D efforts than do the information technology industries.")

[159]"It takes several hundred million dollars to discover, develop and gain regulatory approval for a new medicine." Henry Grabowski, *Pharmaceuticals: Politics Policy and Availability: Patents and New Product Development in the Pharmaceutical and Biotechnology Industries*, 8 Geo. Public Pol'y Rev. 7, 9 (2003). Given these high costs, the club of potential biotech/pharma patent holders is smaller in size than that of the corresponding club of potential info-tech inventors. *See, e.g.,* Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law,* 89 Va. L. Rev. 1575, 1583, 1584 (2003) ("[t]he role of individual inventors is much greater in some industries, such as mechanics and software, than in others, like biotechnology and semiconductors").

[160]*See* Lemley, *supra* note 158 ("pharmaceutical patents are more likely to cover a whole drug, rather than one of 5,000 different components of a semiconductor chip. So patent owners in the pharmaceutical industries don't have to worry about an endless stream of patent owners asserting rights in their drugs.").

[161]*Id*. at 17.

[162]*Id*.

ucts.[163] Proposed reforms that make it harder to protect or easier to challenge biotech/pharma patents will likely be opposed by this interest group.

2. The Political Economy of Patent Reform

The preceding discussion argues that, like the battle against copyright piracy, the movement to reform patent law lacks cohesiveness among interested parties. Most technology companies are likely to support actions that curtail the behavior of patent consolidators as long as they are narrowly targeted. However, legislation that substantially raises the costs of prosecuting a patent infringement claim or makes obtaining injunctive relief significantly more difficult is likely to garner little support from biotech/pharma. Thus, legislation that is broadly drafted will have to be the product of an interest-group politics battle rather than the evasive, conflict-avoiding maneuvers that characterize passage of the DMCA.[164] The remainder of this subsection and the next subsection will examine the history of proposed patent reform legislation and analyze the prospects for future reform.[165]

The impetus for patent law reform was launched in 2003 and 2004 with the release of independent reports from the Federal Trade Commission[166] and the National Research Council of the National Academies (NRC).[167] The two reports made overlapping recommendations designed to fine-tune a generally well-performing patent system.[168] The NRC report, for example, suggested reinvigorating the nonobviousness standard for patent applications, creating a postgrant opposition procedure and

---

[163]The need to protect domestic profitability of blockbuster drugs is especially important because foreign governments actively work to keep prices of drugs sold outside the United States lower. *See* Daniel R. Cahoy, *Patent Fences and Constitutional Fence Posts: Property Barriers to Pharmaceutical Importation*, 15 Fordham Intell. Prop. Media & Ent. L.J. 623, 636–37 (2005).

[164]*See supra* notes 120–34 and accompanying text.

[165]The analysis focuses entirely on legislation proposed in the House of Representatives because, by summer 2006, the Senate had no pending legislation dealing with patent consolidators or patent reform.

[166]Federal Trade Commission, To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy (2003).

[167]Nat'l Research Council of the Nat'l Acads., A Patent system for the 21st Century (2004).

[168]*Id*. at 122.

increasing the funding for the PTO.[169] In October 2004, members of the House of Representatives used these reports as a catalyst for launching a bill advocating broad patent reform—the Patent Quality Assistance Act of 2004 (PQAA).[170] The PQAA provisions went beyond those contained in the two reports. If enacted, the PQAA would create postgrant opposition proceedings, make it more difficult to prove nonobviousness for certain types of business method patents, and allow injunctive relief only when the plaintiff shows that it is likely to suffer irreparable harm.[171]

Subsequently, a new bill—Patent Reform Act of 2005 (PRA)—was introduced in the 109th Congress.[172] It went beyond the PQAA. in drastically changing the U.S. patent system. For example, the PRA included a provision that would require the United States to switch to a first-to-file system from its current first-to-invent system in order to bring the United States into conformity with the rest of the world.[173] Besides the obvious efficiency gains from consistency with other patent systems, adopting a first-to-file system would likely reduce litigation costs by reducing uncertainty.[174] It is unclear what interest groups benefit most from a switch to a first-to-file system.[175] While received wisdom is that large companies have more to gain from the first-to-file system, empirical evidence does not support this conclusion.[176] Regardless, the inclusion of this provision has few implications for patent consolidators.

Other major PRA provisions do have significant implications for patent consolidators. These provisions include limitations on continuation

---

[169]*Id*. at 125–26.

[170]130 CONG. REC. E1935 (2004). Introduced at the end of the 108th Congress, it had no real chance of passage. However, Representative Howard L. Berman voiced the hope that the early introduction would shape the debate for the 109th Congress.

[171]H.R. 5299, 108th Cong. (2004).

[172]Patent Reform Act of 2005, H.R. 2795, 109th Cong. (2005).

[173]The United States is one of the last countries using the first-to-invent system. The Philippines, one of the last holdouts with the United States, recently switched to the first-to-file priority system. *See* Mark A. Lemley & Colleen V. Chien, *Are the U.S. Patent Priority Rules Really Necessary?*, 54 HASTINGS L.J. 1299, 1303 n.16 (2003).

[174]There are elaborate legal procedures established to resolve conflicts when two inventors claim to have priority. *Id*. at 1303.

[175]*Id*. at 1300.

[176]*Id*.

applications, guidelines for granting damages for willful infringement, limitations on granting injunctive relief, and a postgrant opposition procedure. Commentators believe continuation applications to be abusive of the patent application process.[177] With continuations, patent applications can be revised over long periods of time. Patentees can abandon an application at any time, but maintain their priority date with a continuation application filed before the abandonment.[178] Even a patent examiner's final rejection does not extinguish the claims if the applicant files a continuation after abandoning the original application.[179] Even more curious, the PTO can approve an application, but the patentee can avoid accepting the patent through a continuation application.[180] Thus, it has been suggested that very few patents are actually ever rejected because a patentee can wear down a patent examiner and also obtain multiple patents on the same invention.[181]

Continuation applications have significant implications for patent consolidators and patent abuse. The ability of patentees to wear down patent examiners increases the probability that less than meritorious patents are granted.[182] The short-term fix may have long-term implications should a consolidator attempt to enforce the weak patent against an info-tech company who may opt to settle rather than risk a large award or an injunction. Submarine patenting can also have detrimental effects for info-tech companies.[183] The ability to continually revise and tailor a patent application and have its priority date back to the original filing gives a consolidator a powerful weapon to write claims that cover another company's existing or prospective products.[184]

The PRA contained a provision that would address the continuation application problem by allowing the PTO to promulgate regulations that

---

[177]*See generally* Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. Rev. 63 (2004).

[178]35 U.S.C. § 120 (2000).

[179]*See* Lemley & Moore, *supra* note 177, at 79–80.

[180]*Id*. at 64.

[181]*Id*. at 74–83.

[182]*Id*. at 74–76.

[183]*Id*. at 65.

[184]*Id*. at 76–79.

limit the circumstances under which continuation applications would be allowed.[185] Presumably, such regulations would contain safeguards that would allow continuations for minor defects and other legitimate considerations. Unfortunately, the provision fails to provide any degree of certainty in this area. Weak regulations would do little to assuage the continuation problem, whereas strong regulations would likely be opposed by small-entity inventors and biotech/pharma because they might limit the ability to claim and defend meritorious inventions. Given this ambiguity, the continuation provision is likely to receive strong opposition from these interest groups.

The PRA's damage provision was also a source of contention. The potential for high damage awards is opposed by companies seeking to limit the impact of patent consolidators.[186] The objective of patent consolidators, like all firms, is to maximize returns. Patent law allows courts to award treble damages in appropriate cases typically involving willful infringement.[187] Hence, it is not surprising that plaintiffs allege willfulness in over ninety percent of infringement claims.[188] With no downside to including the claim and the potential multiplier, it is almost irrational for a profit-maximizing organization not to allege willfulness. Of course, the multiplier increases consolidators' leverage in settlement negotiations. Even a small probability that the court will award elevated damages heightens the potential loss from defending against an infringement claim. Thus, the ability to demand treble damages places substantial pressure on medium-size firms to settle and increases the expected loss for patent defendants.

The PRA attempted to ameliorate the strategic impact of willfulness allegations by: (1) requiring a specific, detailed allegation of willfulness and (2) providing defendants with a "good faith belief that the patent was invalid or unenforceable" defense against an allegation of willfulness.[189] The latter requirement would provide defendants with a concrete way to

---

[185]H.R. 2795, 109th Cong. § 8 (2005).

[186]*See*, *e.g.*, 130 Cong. Rec. E1935 (2004) (statement of Rep. Berman describing how the fear of a treble damage award for being named a willful infringer compels companies to settle cases after receiving even specious licensing letters).

[187]35 U.S.C. § 284 (2000).

[188]Kimberly A. Moore, *Empirical Statistics on Willful Patent Infringement*, 14 Fed. Cir. B.J. 227, 232 (2004/2005).

[189]H.R. 2795, 109th Cong. § 6 (2005).

defend against willfulness claims and lead to more objective willfulness determinations. While these changes provide few benefits for biotech/pharma companies, the costs imposed on them would be limited. Biotech/pharma is most interested in stopping infringing behavior and preventing harm to its high-revenue patents.[190] Thus, as long as biotech/pharma maintains its power to enjoin infringers, they should provide little opposition to damage reforms.

The most controversial PRA reform proposed was one that would dramatically curtail the ability of patent plaintiffs to obtain injunctive relief.[191] Under pre-PRA law, injunctive relief fell under the discretion of the individual court "under such terms as the court deems reasonable."[192] The PRA requires the court to recognize a heightened standard of review before granting an injunction and stay the injunction if the decision is appealed.[193] The stay would be mandatory provided the patent owner would not suffer irreparable harm.[194] Thus, unless the patentee were able to prove substantial immediate losses or losses that exceed those that the defendant incurred from being enjoined, the patentee would not receive preliminary injunctive relief. This change clearly would benefit defendants. It reduces a major incentive to settle disputes by allowing defendants to continue to exploit and profit from use of the disputed patent. Supporters of the provision claimed that the change would prevent courts from shutting down production lines and, perhaps, entire companies.[195] However, shutting down the defendant's production or forcing the defendant to reengineer its product is perhaps the best leverage that a small-entity inventor has over a large corporate defendant. With the risk of a permanent injunction substantially reduced, defendants may choose to stall indefinitely, knowing that they are better positioned to survive a costly legal battle.

---

[190] *See supra* notes 159–63 and accompanying text.

[191] H.R. 2795, 109th Cong. § 7 (2005).

[192] 35 U.S.C. § 283 (2000).

[193] H.R. 2795, 109th Cong. § 7 (2005). This language was actually softened from the earlier PQAA language, which stated, "[a] court shall not grant an injunction under this section unless it finds that the patentee is likely to suffer irreparable harm. . .." H.R. 5299, 108th Cong. § 6 (2004).

[194] *Id*.

[195] *See H.R. 2795: The Patent Reform Act of 2005*, Pub. Knowledge, http://www.publicknowledge.org/issues/hr2795.

The negative impact on small-entity inventors and patent consolidators is why restrictions on a court's ability to grant injunctions are attractive to info-tech companies. Info-tech and other companies that employ low development costs and fast-depreciating patents are strong supporters of this provision because the number of potential patent infringement claims they face is high.[196] In many cases the only requirements for developing info-tech patents are programming knowledge, access to a computer, and time.[197] These patents tend to be inputs to production of a commercial product and often constitute just a small fraction of the commercial product's total technology.[198] Such patents may cover software that controls the way a microchip addresses a computer or the process by which intermittent windshield wipers work.[199] Reducing the permanent injunction weapon from patent consolidators diminishes the incentive for patent defendants to settle early. Hence, rather than settling a questionable or perhaps not so questionable claim to avoid the risk of being enjoined, Section 7 of the PRA would have provided a defendant with a better opportunity to contest the imposition of an injunction.[200]

The reasons that info-tech companies wish to restrict injunctive relief are the same reasons that biotech/pharma oppose such restrictions. Biotech/pharma's interests tend to be closer to those of copyright content holders in that their business model is based on selling products to end users that embody one or a very limited number of patents, whereas info-tech companies are more likely to use their intellectual property as pro-

---

[196]*See* McCullagh, *supra* note 15.

[197]*See, e.g.*, Burk & Lemley, *supra* note 159, at 1582 ("[i]n the computer industry, for example, it has long been possible for two programmers working in a garage to develop a commercial software program"). Even with increased complexity and costs, it is still far less expensive to develop software than pharmaceutical products. *Id*. at 1583.

[198]*See* Lemley, *supra* note 158 (noting that an Intel microprocessor may include 5,000 different inventions and that it is highly probable that Intel could innocently include a patent protected invention in such a complex product).

[199]The story of the long-term suppression and subsequent successful infringement lawsuits for the patent on critical technology for controlling intermittent windshield wipers holds a special place in the pantheon of patent folklore. It is perhaps the most famous of the patent troll cases. *See* Kurt M. Saunders & Linda Levine, *Better, Faster, Cheaper—Later: What Happens When Technologies Are Suppressed*, 11 MICH. TELECOMM. TECH. L. REV. 23, 68 (2004); *Robert Kearns, Inventor of Intermittent Windshield Wipers and Battled Car Companies, Dies at* 77, THE AUTO CHANNEL, Feb. 25, 2005, http://www.theautochannel.com/news/2005/02/25/005398.html.

[200]H.R. 2795, 109th Cong. § 7 (2005).

duction inputs. For example, a high-revenue-generating medical drug is likely to be covered by a small number of patents, while a product like the Apple iPod or Microsoft Windows XP are an amalgam of dozens or even hundreds of patents, copyrights, trade secrets, and public domain technologies.[201] With respect to patent injunctions, biotech/pharma's reliance on high-revenue-generating patents places their interests in a position that is diametrically opposed to the interests of info-tech companies.[202] Biotech/pharma companies face far fewer infringement claims by patent consolidators or trolls. However, when a manufacturer markets a high-revenue pharmaceutical without permission, each day that the company continues its unauthorized behavior results in significant losses for the patent-holding biotech/pharma company.[203] Thus, biotech/pharma is far more concerned with enforcing patent rights.

The final patent-consolidator-related reform contained in the PRA was the creation of a postgrant opposition procedure. Section 9 of the PRA allows interested parties to contest new and reissued patents within nine months of issuance or six months after receiving notice of alleged infringement.[204] A PTO opposition proceeding would likely be a less expensive and quicker way to contest the validity of a patent than litigation.[205] The opposition opportunity keyed to notice of alleged patent infringement is of greater significance than the opposition opportunity keyed to patent

---

[201]*See, e.g.,* Lemley, *supra* note 158, at 2 (observing that "pharmaceutical patents are more likely to cover a whole drug, rather than one of 5,000 different components of a semiconductor chip").

[202]*Id*.

[203]*See supra* note 167 and accompanying text.

[204]H.R. 2795, 109th Cong. § 323 (2005).

[205]While a U.S. Patent & Trademark Office proceeding for challenging patents known as reexamination currently exists, there are disadvantages with respect to litigation. Any party may request an ex parte or inter partes reexamination of a patent. 35 U.S.C. §§ 302, 311 (2000 & Supp. II 2002). However, the basis of the reexamination request is limited to documented prior art contained either in a preexisting patent or in printed publications. *Id*. Moreover, a third party after requesting an inter partes patent review and receiving an adverse decision is estopped from raising in litigation the same issue or an issue that could have been raised during inter partes reexamination. 35 U.S.C. § 315(c) (2002). These disadvantages may explain the higher opposition rate (over thirty times higher) in Europe relative to the reexamination rate in the United States. Stuart J.H. Graham et al., *Patent Quality Control: A Comparison of U.S. Patent Re-Examinations and European Patent Oppositions*, *in* Patents in the Knowledge-Based Economy 83–84 (Wesley M. Cohen & Stephen A. Merrill eds. 2003).

issuance. With over 180,000 patents issued each year, it is virtually impossible for companies to track all relevant patents.[206] Thus, in terms of providing an opportunity to squash nonmeritorious patents, the six-month post-infringement-notice window (second-chance opposition) is likely to be the most efficacious avenue for patent challenges.

Info-tech companies strongly favor the dual opposition procedures contained in the PRA due to their potential cost savings. The initial opposition period would allow info-tech companies to challenge obviously relevant patents that they believe the PTO issued in error. This opposition opportunity could result in significant savings from litigation avoidance. It would allow defendants to challenge patents on their merits without considering strategic concerns such as whether settlement is cheaper regardless of merits or whether they can afford to risk having their production enjoined. The second-chance opposition opportunity would be a stronger tool against patent consolidators. The ability to contest a patent that has limited merits outside of litigation deprives consolidators of most of their leverage to force quick settlements. This power to challenge questionable patents plus limitations on injunctive relief would severely retard many consolidator-generated patent infringement claims.

Biotech/pharma receives little benefit from opposition proceedings. Opposition proceedings are a defense tool. Biotech/pharma companies are more likely to be patent plaintiffs. The use of opposition proceedings against a biotech/pharma company could be particularly damaging.[207] High-revenue biotech and pharmaceutical patents are critical to the profitability of these companies.[208] Having a critical patent invalidated would certainly be as harmful to a biotech/pharma company as an injunction is to an info-tech company.

The greater risk associated with opposition proceedings as compared to reexaminations would force biotech/pharma to be more cautious about

---

[206]*See H.R. 2795: The Patent Reform Act of 2005,* Public Knowledge, http://www.publicknowledge.org/issues/hr2795 (last visited June 15, 2006).

[207]Professor Lemley provides an example where, due to the lengthy Food & Drug Administration approval process, generic manufacturers are unable to contest the validity of a biotech/pharma patent during the initial nine-month opposition period. *See* Lemley, *supra* note 158, at 10. This example illustrates the reason why biotech/pharma opposes the second-chance opposition proceeding. Biotech/pharma does not want to risk losing a revenue-generating drug through an administrative response to an infringement allegation.

[208]*See supra* note 161–63 and accompanying text.

bringing infringement claims against suspected infringers.[209] The patent holder might refrain from challenging infringing behavior out of fear that his patent might be invalidated through opposition. Therefore, there is little chance that biotech/pharma would accept enactment of the opposition-proceedings provisions of the PRA. Given these negative implications for biotech/pharma and patent consolidators, it is not surprising that the PRA did not receive sufficient support for passage.

A coalition consisting of industry representatives and professional associations developed and offered for discussion "An Amendment in the Nature of a Substitute for the PRA" (Coalition Draft).[210] The most significant changes in the Coalition Draft were its exclusions. The Coalition Draft deleted the PRA's injunctive relief and continuation modifications, as well as the second-chance opposition procedure.[211] In essence, if the PRA could be characterized as the info-tech industry's optimal bill, then the Coalition Draft could be characterized as biotech/pharma's optimal response to the PRA. The Coalition Draft removed the provisions that biotech/pharma found most threatening. In the end, there was not enough common ground between the PRA and the proffered Coalition Draft for compromise and passage during the 109th Congress.

3. Prospects for Patent Reform

Patent reform, like copyright reform, is characterized by interest-group politics.[212] The major beneficiary of patent reform, info-tech, is countered by an extremely powerful adversary in biotech/pharma. Info-tech enjoyed a first-mover advantage and built up significant momentum with the introduction of the PQAA and PRA.[213] However, biotech/pharma has stymied this momentum with their opposition to key patent reform

---

[209]Empirical data indicates that reexamination challenges result in patent cancellation in 12.2 percent of cases. By contrast, opposition proceedings in the European Union result in patent cancellations in forty-one percent of the cases patent restrictions applied in another thirty percent of cases. *See* Graham et al., *supra* note 205.

[210]Amendment in the Nature of a Substitute to H.R. 2795, the "Patent Act of 2005" (not introduced as of June 20, 2006), *available at* http://www.promotetheprogress.com/ptpfiles/patentreform/patentact2005/Patentact2005_draftamendsubst.pdf.

[211]*Id*.

[212]*See* WILSON, *supra* note 10.

[213]*See supra* note 178–68 and accompanying text.

provisions found in those bills. The influence of biotech/pharma is enormous. Biotech/pharma sends more lobbyists to Washington than there are elected officials in Congress.[214] Members of the Pharmaceutical Research and Manufacturing Association contributed over $50 million to Republican Congressional candidates during the 2002 mid-term elections and have been recognized for years as an extremely effective lobbying force.[215] Thus, biotech/pharma is well positioned to wage an interest-group political battle over patent reform.

By contrast, info-tech is a late entrant into the political interest group process and is clearly not as sophisticated at garnering congressional favor as is biotech/pharma. Microsoft's attempt in the mid-1990s to influence the federal antitrust case filed against it is remembered for its clumsiness and abject failure.[216] Prior to that attempt, Microsoft had just one Washington lobbyist, who was based in a suburban sales office, and had 1993-1994 campaign contributions totaling a mere $109,134.[217] However, info-tech companies are fast learners. Microsoft quickly opened a Washington office, staffed it with fifteen lobbyists, and ratcheted its campaign contributions to $5 million.[218] Other info-tech companies, such as Sun Microsystems, have been noted for their efforts at exerting political influence.[219] However, it is highly unlikely that these catch-up efforts will be sufficient to successfully counter the influence that biotech/pharma exerts. Given this scenario, it seems that major patent reform has only a small probability of passage in the absence of external

---

[214]*See* Andrew Harris, *Recent Congressional Responses to Demands for Affordable Pharmaceuticals*, 16 Loy. Consumer L. Rev. 219, 220 (2004).

[215]*See* Jamie Crook, *Balancing Intellectual Property Protection with the Human Right to Health*, 23 Berkeley J. Int'l L. 524, 532 (2005); Susan K. Sell, *Legal Movements in Trade & Intellectual Property*, 17 Emory Int'l L. Rev. 591, 598 (2003).

[216]*See* Albert A. Foer, *The Politics of Antitrust in the United States: Public Choice and Public Choices*, 62 U. Pitt. L. Rev. 475, 478 (2001).

[217]Shell, *supra* note 154, at 28–29.

[218]*Id.*

[219]*See, e.g., Law Policy and the Convergence of Telecommunications and Computing Technologies Conference: Welcome*, 2001 Mich. Telecom Tech. L. Rev. 1, 23–24 (2001) (reporting that Netscape and Sun were strong supporters of Republican candidates for political office).

factors such as the 1996 international copyright treaties that facilitated passage of the DMCA.[220]

One possible external factor is the recent *eBay v. MercExchange* Supreme Court decision.[221] MercExchange held a business method patent that allegedly covered the "Buy It Now" feature used by eBay and Half.com, a wholly owned subsidiary, in their online auctions. MercExchange and eBay failed to reach an agreement on licensing terms, so MercExchange brought a patent infringement action.[222] A jury ruled in favor of MercExchange, but the District Court denied MercExchange's request for a permanent injunction. The District Court based its denial on the fact that MercExchange had not commercially exploited its patents and was unwilling to license them.[223] On appeal, the Court of Appeals for the Federal Circuit reversed asserting that the District Court had erred in not following the "general rule" that in patent cases courts grant permanent injunctions once infringement and validity are established.[224]

The Supreme Court overturned the Federal Circuit's decision concluding that neither court had applied the proper injunctive relief standard. Justice Thomas, writing for the Court, asserted that patent claims for injunctive relief are not special and should be treated like any other request for a permanent injunction. The proper standard to be applied to such claims is the traditional four-factor test. Under this test the plaintiff must show: (1) that it has suffered an irreparable injury, (2) that nonequitable remedies at law are inadequate, (3) that the balance of hardships favor the plaintiff, and (4) that the public interest would not be served by a permanent injunction.[225] In sending the case back to the District Court for further deliberations, Justice Thomas did not provide additional guidance on how courts should apply the four-factor test to permanent injunction requests in patent cases. The two concurring opinions provide conflicting guidance. Justices Roberts, Scalia, and Ginsburg argued that courts should follow the historical practice of awarding permanent injunctions in most

---

[220] *See supra* notes 127–34 and accompanying text.

[221] eBay v. MercExchange, 126 S. Ct. 1837 (2006).

[222] *Id*. at 1838.

[223] *Id*. at 1840.

[224] *Id*. at 1841.

[225] *Id*. at 1839.

successful patent infringement cases.[226] Justices Kennedy, Stevens, Souter, and Breyer asserted that prior case law should not serve as guidance on how to apply the four-factor test. They noted that it may not serve justice to grant a permanent injunction when the patent consists of only a small component of a product containing a multitude of technologies. Moreover, they also implied that it may not be appropriate to rely on Supreme Court precedents in dealing with business-method patents due to the highly variable nature of their quality and validity.[227]

While *eBay* does not unequivocally resolve the patent permanent injunction issue, it likely[228] allows the proponents of the contentious injunctive relief provisions in the PDQ[229] to remove it in order to enhance the bill's probability of passage. For patent reform passage to occur, interests group politics will likely narrow the reform's scope. It will likely contain a limitation on damages provision, a venue limitation, and possibly a narrowly drafted second-chance opposition proceeding. Such a bill will have at least a modest effect on patent troll behavior. The proposed reforms, if enacted, will reduce the plaintiff's expected return or reduce his leverage to pressure the defendant to settle the dispute. The reduction in leverage also reduces the plaintiff's expected payoff by reducing the expected settlement and by increasing litigation costs. With reduced leverage, plaintiffs extract smaller settlements and cases will not settle as quickly.

---

[226]*Id*. at 1841.

[227]*Id*. at 1842.

[228]Representative Howard L. Berman, perhaps the strongest congressional advocate for patent reform, in a subcommittee hearing explicitly stated that legislation on permanent injunctions would not receive further consideration after the *eBay* decision. *Oversight Hearing on "Patent Trolls: Fact or Fiction? Before the H. Subcomm. on Courts, The Internet, & Intell. Prop.,* 109th Cong. (2006) (statement of Howard L. Berman, Chair, House Subcomm. on Courts, The Internet, and Intellectual Property).

[229]In an effort to restart patent reform, Representative Berman introduced the "Patents Depend on Quality Act" (PDQ) of 2006. H.R. 5096, 109th Cong. (2006). The pared-down bill eliminates some of the controversial provisions in the PRA. Many PRA measures including the switch to a first-to-file system and continuation application reform are absent from the PDQ. However, more germane to this analysis, the PDQ draws from the PRA the second-chance opposition proceeding, the restriction on damages for willful behavior, and the reform of injunctive relief. *Id*. at §§ 2, 6, 8. In addition, the PDQ adds to these pro-info-tech provisions the venue-limitation provision provided in the Coalition Draft. *Id*. at §7. Representative Berman's strategy appears to be to pare down patent reform for 2006 to include only the provisions that are most important to info-tech.

Reduced returns will also make it harder for small-entity inventors to oppose patent infringers because contingent-fee attorneys will be less willing to accept marginal cases due to reduced overall expected returns.[230] In such cases, the contingent-fee attorney's expected return is often negative because he receives only a fraction of the payoff but incurs all the costs.[231] Small-entity inventors will have a significantly weakened ability to profit from or protect their patent rights through litigation.

Patent consolidators may actually benefit from the increase in costs of prosecuting claims especially if the probability of permanent injunction is substantially diminished. The lowered expected return from scaled-back patent reform will induce small-entity inventors to sell their rights for lesser amounts than before patent reform. Marginally valid low-value patents will not be litigated, so the volume of patent infringement cases should decline. However, the remaining cases are likely to be much higher in quality with plaintiffs much more capable of prosecuting cases to resolution. The incentive to sell at a greater discount will increase the size of patent consolidators' litigation resources. The greater resources available to patent consolidators already provide them with the ability to avoid relying on contingent-fee attorneys.

The creation of a second-chance opposition proceeding would likely strengthen patent consolidators even more. A second-chance opposition proceeding will screen out even more marginal cases. As a result, the remaining cases available to patent consolidators for purchase will be high in quality and validity. In addition, consolidators will be reticent to purchase patents that are highly questionable in validity if there is a significant probability that they could be overturned in opposition. Therefore, not only will patent plaintiffs be more willing and able to stay with claims longer, but the quality of infringement claims will increase. The likely net effect is that, while the overall number of patent infringement claims will likely decline, more patent infringement claims will be brought by patent consolidators or trolls rather than small-entity inventors, and the overall quality of patent troll claims is likely to rise. Thus, rather than striking a

---

[230]Small-entity inventors generally rely on contingent fee arrangements in civil actions. *See* Robert E. Thomas, *Psychological Impact of Scrutiny on Contingent Fee Attorney Effort*, 101 W. VA. L. REV. 327, 328 (1998). Unless the potential gain from filing an infringement claim is large, the probability of a contingent fee attorney accepting a case declines with the expected payoff. *Id.* at 371.

[231]*Id.* at 333–34.

blow against the patent troll, patent reform is likely to help make these new industrialists the next strong patent interest group able to influence future patent reform efforts.[232]

IV. Conclusion

This article examines differences in the evolution of copyright and patent laws. Applying theoretical constructs from political economics, it suggests that the evolution of both copyright and patent laws has been governed by interest-group politics.[233] Interest-group politics with strong interests on all sides tend to deadlock or result in compromise outcomes with all groups receiving something and no interest group receiving everything on its wish list.[234] The evolution of digital copyright law did not follow this script because content holders were able to avail themselves of an international treaty process to get much of what they wanted in the enactment of the DMCA. The info-tech industry will not be able to replicate the copyright reform process and avoid interest-group opposition to its favored patent reforms. The strong opposition of small-entity inventors and particularly the biotech/pharma industry will force info-tech companies to compromise if they hope to get a reform bill passed in the near future.

The Supreme Court's decision in *eBay v. MercExchange* has reinvigorated the possibility of patent reform by diminishing the need for the highly contentious permanent injunction restrictions proposed in recent reform bills. Nevertheless, the unwillingness of patent reform supporters to remove or significantly weaken the second-chance opposition proposal may yet scuttle remaining possibilities for an agreement. This provision is a deal killer for both sides in that info-tech is unwilling to live without it and biotech/pharma is adamantly opposed to its inclusion. It is unclear whether patent reform backers will accept incremental gains such as damage and venue restrictions.

Future efforts to modify copyright and patent law will undoubtedly be characterized by contentious interest-group politics. In order to stem

---

[232]Justice Kennedy, in a concurring opinion, describes a "new industry" in which patent holders do not produce or manufacture products using their patents but rather seek to obtain license fees. eBay v. MercExchange, 126 S. Ct. 1837, 1842 (2006). This oblique reference is to patent consolidators whose behavior clearly troubles Justice Kennedy.

[233]*See supra* notes 9–13 and accompanying text.

[234]*See* Wilson, *supra* note 10, at 368.

future losses, content holders must either have access control built into electronic equipment or develop a way to track the sources of files traded over the Internet. These steps will require the cooperation of equipment manufacturers and ISPs. Supplying such aid to copyright content holders is likely to reduce revenue for both equipment manufacturers and ISPs. Equipment manufacturers and ISPs are large, powerful interest groups. Therefore, if copyright content holders attempt to get enabling legislation enacted, the attempt will almost certainly spawn an interest-group politics conflict. Such attempts to revise copyright and patent law will be slow and characterized by modest, incremental, and evolutionary rather than revolutionary change. Major paradigm-shifting changes, such as those resulting from the DMCA, will not be replicated anytime soon. For anyone who believes the interests of all involved parties should be recognized in designing new law, the prospect of slow and deliberate change is a welcome one.