

# COMPULSORY PATENT LICENSING: IS IT A VIABLE SOLUTION IN THE UNITED STATES?

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*As technology continues to advance at a rapid pace, so do the number of patents that cover every aspect of making, using, and selling these innovations. In 1996, to compound the rapid change of technology, the U.S. Supreme Court affirmed that business methods are also patentable. Hence in the current environment, scores of patents, assigned to many different parties, may cover a single electronic device or software—making it increasingly impossible to manufacture an electronic device without receiving a cease and desist letter or other notice from a patentee demanding a large royalty or threatening an injunction. Companies, particularly those in the high technology sector, have been asserting for some time now that they are under constant threat of lawsuits that threaten to shut them down. As a result, numerous radical changes to the U.S. Patent Act and patent practice before the U.S. Patent & Trademark Office have been proposed. Certain proposed changes, however, are meeting with resistance because of a reliance on long term patent protection and exclusivity of patent rights by different industries. Notwithstanding, certain foreign governments have already enacted provisions making it possible to obtain a compulsory patent license in the event that a patentee is not practicing his invention or is simply refusing to license the rights to his invention for a reasonable royalty fee.*

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In this Article, we briefly review the history of the U.S. Patent System, the proposed reforms to the Patent Act, and the proposed changes to the Rules of Practice before the U.S. Patent and Trademark Office (“USPTO”). On this back drop, we look at alternative mechanisms used by patent owners to circumvent the problems with cross–licensing numerous patents issued on a single product. We then examine the effect of compulsory patent licensing as a potential remedy for instances where a technology is covered by a large number of patents. We present the differing views of compulsory patent licensing in Europe and the United States. Finally, we examine whether compulsory patent licensing is a potential solution to current problems presented by patent trolls, and if it could be properly implemented to resolve the issues facing various industries, without generating an anticompetitive effect or discouraging innovation.

## I. INTRODUCTION

A frequently cited saying states “Everyone is in favor of progress; it’s the change they don’t like.” The numerous technological advances in

medicine and industry during the past 25 years have been coupled with a tremendous increase in wealth in the United States. According to some commentators, the state of the U.S. patent system during the last 35 years is in serious disrepair, and to support their position they provide a long list of attributed ailments. Most of these commentators offer an equally long list of proposed changes which, once adopted, will arguably alleviate the perceived problems.<sup>1</sup>

The assumption within these commentators' reasoning appears to be that the identified problems are present throughout the patent system across all industries in all nations and that solutions applied equally across the board will take care of the problems. Proposals to reform the 1952 Patent Act are pending. Similarly, the U.S. Patent Office has presented radical changes to its rules concerning continuation and claim practice in an effort to "ensure that the patent application process promotes innovation."<sup>2</sup>

Notwithstanding efforts to "better focus" the patent application process, some of the existing issues with the patent system are particular to individual industry subgroups. Moreover, although an overhaul and/or drastic reform measures may in fact take care of certain identified problems, the effect of these reforms on innovation and the economy is, at the very least, uncertain. Furthermore, industries that had not experienced problems in the first place could be adversely affected by the reforms. Therefore, creative approaches are needed to craft the least intrusive, narrowly tailored solutions that address the defined problems in various industries.

In some industries, particularly the semiconductor industry, access to hundreds of patents may be necessary in order to produce a single commercial product. Many of the patents overlap and block the use of other patents, thereby creating a "patent thicket"—a "dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology."<sup>3</sup> It is hypothesized that patent thickets increase transactional costs and stifle innovation by making it more expensive and difficult to bring new developments to the market.

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1. See, e.g., FED. TRADE COMM'N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY (2003); see also, NAT'L RESEARCH COUNCIL, NAT'L ACADS. OF SCIS., A PATENT SYSTEM FOR THE 21ST CENTURY (Stephen Merrill et al. eds, 2004).

2. Changes To Practice for Continuing Applications, Requests for Continuing Applications, Requests for Continued Examination Practice, and Applications Containing Patently Indistinct Claims, 71 Fed. Reg. 48 (January 2, 2006) (to be codified at 37 C.F.R. pt. 1).

3. Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting* in 1 INNOVATION POLICY AND THE ECONOMY 119, 120 (Adam Jaffe, Josh Lerner & Scott Stern eds., 2001).

Software and business method patents are often owned and enforced by someone other than the original inventors. In many such cases, the patents are assigned or exclusively licensed to third party entities known as “patent trolls”. These patent trolls do not invent or otherwise use technology to generate improvements, and they do not produce or manufacture products. Instead, the business of the patent troll is collecting royalties on patent portfolios through licensing and litigation.<sup>4</sup> The point of contention is that patents procured or purchased by trolls are not utilized in a manner consistent with the fundamental purpose of a patent—to promote innovation. Indeed, the business of the troll may have a negative impact on innovation. Hence, as discussed below, to combat the troll problem, numerous approaches have been proposed to discourage these negative business practices.

Patent trolls notwithstanding, the ability to bring a product to market in the presence of a patent thicket and the stacking royalties must separately be addressed. Patent clearinghouses (“PCHs”) and patent pools have been proposed and utilized. Sometimes, however, patent owners simply refuse to license the patent rights needed to produce a product—particularly where the demand for a hefty royalty cannot be met or a threat by a patent troll is involved.

To tackle the issue of obtaining a license from a non-practicing patentee, such as a patent troll, or in the event that a patent owner wishes to opt out of the PCH or patent pool, compulsory patent licensing may be a viable, or only, solution. Such a tool could be aimed specifically at patentees who do not “work” the technology and whose patent rights are in a crowded field. Compulsory patent licensing may be particularly suitable for hold-ups or for those who seek to extort a royalty once there is a successful commercial product. In addition, compulsory patent licensing may be appropriate when the new innovation is already covered by complementary or blocking patents, and would thus be an ineffectual development absent a license from another patent owner.

## II. BRIEF HISTORY OF U.S. PATENT SYSTEM

The purpose of the patent system in the United States is to promote innovation and encourage the development of new technology. For patentable inventions—inventions that are new, useful and nonobvious—the government provides a grant of exclusivity to the patentee for a set period of time in exchange for a complete disclosure of the invention so that others may later build on the knowledge of it. Since its inception,

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4. Rita Heimes, *Patent Trolls Prey on SME's*, LAW & INNOVATION J. (2006), [www.lawandinnovation.org/documents/Patent\\_Trolls.pdf](http://www.lawandinnovation.org/documents/Patent_Trolls.pdf).

the value and philosophical basis underpinning the patent system has been a matter of debate and public perceptions about it have vacillated. At different times, the varying points of view have had a significant effect on the development of patent law. As a result, the patent system in the United States is to a certain degree a consequence of the different view points which prevailed at various points in history.

Originally enacted in 1790, the first U.S. Patent Act was a simple, seven-section act designed to promote the “Progress of Useful Arts.”<sup>5</sup> Technology at this time was also simple on a relative scale and included developments such as carbonated water (Joseph Priestley), the light bulb (Humphry Davy), the cotton gin (Eli Whitney), the chemical battery (Alessandro Giuseppe Antonio Anastasio Volta), and the hot air balloon (Montgolfier). Within three years, however, the 1790 Act was repealed and replaced by an act that defined patentable subject matter in a manner which has survived nearly unchanged to date as “any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter.”<sup>6</sup>

The 1793 Act was significant in that it recognized that one patent might have a dominating effect over another.<sup>7</sup> Specifically, the act set out the principle that a particular improvement of a patented invention did not provide a right to use the invention that was the subject of the original patent or vice versa. It is noteworthy that patents under the 1793 Act were granted only to U.S. citizens.<sup>8</sup>

In 1836, as a result of complaints that some patented inventions lacked novelty, Congress established the Patent Office.<sup>9</sup> The 1836 Patent Act expanded potential patentees to include all resident aliens who declared an intention to become a U.S. citizen.<sup>10</sup> In addition, a mechanism (that is now known as “interference” practice) was established to resolve disputes relating to priority of invention. Although the citizenship requirement to obtain a patent was eliminated, the fees charged to foreigners were nearly ten times those charged to U.S. citizens. The 1839 Act codified the laws of statutory bars, thereby clarifying inconsistent judicial decisions relating to competing applications that were arguably driven by economic considerations.<sup>11</sup> A two-year grace period

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5. Patent Act of 1790, ch. 7, 1 Stat. 109–112 (1790) (repealed 1793).

6. Patent Act of 1793, ch. 11, 1 Stat. 318–323 § 1 (1793) (repealed 1836).

7. *Id.* § 2.

8. *Id.* § 1.

9. Patent Act of 1836, ch. 357, 5 Stat. 117 (1836).

10. *Id.* §12.

11. Patent Act of 1839, ch. 88, 5 Stat. 353–355 (1839).

for publication or use of the invention was made available. In 1842, patents on new and original designs for a manufacture began to issue.<sup>12</sup>

By 1870, legislation related to patents was consolidated in a single act. At this time, the seventeen year patent term was promulgated.<sup>13</sup> Best mode and the on-sale bar were included, and patent applications had to be filed within a two year grace period from public use or sale,<sup>14</sup> not one year as it is today.<sup>15</sup> Subsequently, during the 1870s and 1880s, many international organizations were established. In 1887, the United States joined the Paris Convention for the Protection of Industrial Property,<sup>16</sup> which further influenced the changes in and transformation of the patent system.

In 1890, in response to public outcry and economic considerations, the Sherman Act was passed to combat monopolistic behavior.<sup>17</sup> The Sherman Act restricts monopolies and attempts to monopolize in order to protect companies from each other and consumers from unfair business practices. Both the Sherman Act and the subsequent Clayton<sup>18</sup> and Robinson-Patman Acts<sup>19</sup> are enforced by the Federal Trade Commission (FTC) and the Antitrust Division of the Department of Justice.

Intellectual property and patents in particular have always existed in tension with antitrust law. Indeed, deference to patent law over antitrust law has oscillated time. Recently, courts have chosen to uphold intellectual property rights in the face of antitrust considerations.<sup>20</sup> While hundreds of patents can cover a single product, patent pools present awkward circumstances and sometimes difficult issues in light of antitrust law. Properly set up, however, patent pools can justify loosening antitrust restraints, as noted by both the Department of Justice and the Federal Trade Commission.<sup>21</sup> However, a per se rule of legality for the pooling of patents is not recommended. The permissible scope of larger pools must be carefully defined. Less problematic are patent clearing-

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12. U.S. Patent No. D1 (issued Nov. 9, 1842).

13. Patent Act of 1870, ch. 230, 16 Stat. 198-217 § 22 (1870).

14. Patent Act of 1870, ch. 230, 16 Stat. 198-217 § 24 (1870).

15. 35 U.S.C. 102(b) (2006).

16. Paris Convention for the Protection of Industrial Property, March 20, 1883, *available at* [http://www.wipo.int/treaties/en/ip/paris/pdf/trtdocs\\_wo020.pdf](http://www.wipo.int/treaties/en/ip/paris/pdf/trtdocs_wo020.pdf).

17. Sherman Act, ch. 647, 26 Stat. 209 (1890) (codified as amended at 15 U.S.C. §§ 1-7 (2006)).

18. Clayton Act, ch. 323, 38 Stat. 730 (1914) (codified as amended at 15 U.S.C. §§ 12-19, 21-27 (2006)).

19. Robinson-Patman Act, ch. 592, 49 Stat. 1526 (1932) (codified as amended at 15 U.S.C. §§ 13(a)-(b), 21(a) (2006)).

20. Steven C. Carlson, Note, *Patent Pools and the Antitrust Dilemma*, 16 YALE J. ON REG. 359, 360-361 (1999).

21. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, *Antitrust Guidelines for the Licensing of Intellectual Property* 128-29 (American Bar Ass'n 2d ed. 2002) (1995).

houses, where seekers and providers are matched by an agency responsible for administering patent rights. However, patent clearinghouses are not always suitable for to non-standardized technology.

### III. THE PATENT SYSTEM TODAY

The basic structure of current patent law was adopted in 1952 and has been amended several times, often as a result of different international and domestic policy considerations. With a few exceptions, the current patent act is a set of legal rules governing innovation as a whole and without distinction as to the different technologies that exist today. The patent law in the United States is intended to be adaptable to encompass “anything under the sun that is made by man.”<sup>22</sup> However, the rapid speed of technological advances in the last half of the twentieth century, particularly since the discovery of DNA in 1953 and the advent of digital technology, have spawned some of the greatest challenges to the United States patent system. Indeed, in some cases, current innovations may seem to be almost magical by 1952 standards.

The concept of patents has always been driven by the guiding principle of advancing the development of technology. Numerous other factors also influence the development of patent law, not the least of which are the economic impact on the nation and the world, and the desire to unify patent law with other countries. Currently, concerns over the state of the law, its effect on economic growth and competition in the market place, and the possibility of slowing or suppressing future technological advancements are all widespread.

For the most part, U.S. patent law is written so as to be applicable to any type of technology, without distinction to any particular industry.<sup>23</sup> In theory, the U.S. Patent Act is written to be technology-neutral.<sup>24</sup> However, the law is often technology-specific in application.<sup>25</sup> As a result, there is currently widespread apprehension and a significant amount of doubt that a unitary patent system will continue to “promote innovation, encourage the development of new technologies, and increase the fund of human knowledge” in the various and varying industries to which the patent system applies, or at least a fear that it will fail to do so in an optimal manner.<sup>26</sup> Moreover, while most legal theorists agree on the goal

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22. *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

23. *But see* 35 U.S.C. § 271(e)(1) (creating an exception on the basis of industry type).

24. Dan L. Burk & Mark A. Lemley, *Policy Levers In Patent Law*, 89 VA. L. REV. 1575, 1576-77 (2003).

25. *Id.*; Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?* 17 BERKELEY TECH. L.J. 1155, 1156 (2002).

26. Burk & Lemley, *supra* note 24, at 1576-77.

and framework of the patent law, numerous different theoretical approaches to interpretation and application of patent law have been offered. Different economic and legal theories have been developed with industry-specific research and development in mind, but fail when applied outside the context of that industry.<sup>27</sup>

Short of revamping the entire patent system, however, there are other ways to take into account the promotion of technological advancement of different industries. Cooperative licensing arrangements and patent pools and clearinghouses are viable solutions to industry-specific development. In certain circumstances, even compulsory patent licensing may be necessary and justified. However, to these authors, it does not make sense to promulgate a completely new Patent Act because of industry-specific concerns and/or industry-specific disputes. The reason is simple: a bright line application of patent law on an industry-specific basis will convolute exactly what the law is and how it must be applied going forward, particularly as technologies change and the business of different industries crosses over into different scientific disciplines.

In a 2003 review, Dan Burk and Mark Lemley provided a comprehensive discussion of the major legal theories for the role of patents and patent protection.<sup>28</sup> Interestingly, the different patent theories offer patents as facilitators and potential impediments to innovation. Current patent theories provide conflicting predictions about the effect of patents on industry and are further contradictory in the recommendations for the proper boundaries and/or limitation of patent law. Burk and Lemley argued that the way to reconcile the different theories into an integrated whole is to “recognize that every different theorist has a different industry in mind, and that each industry requires a unique form of patent protection.”<sup>29</sup> We agree that theories must be viewed in light of industry. We also agree that each industry has its own specific problems with procuring, protecting, and enforcing its patent rights. However, we do not agree that the technologies of each industry require a complete set of patent laws and rules.

Economic and legal theories, however, do provide valuable insight into the development of new technologies and the effects of the patent system on innovation. Therefore, these theories should not be disregarded or avoided. But one size does not fit all. So economic and legal theories should act as a guide, not a road map.

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27. *Id.* at 1577-78.

28. *See generally, id.*

29. *Id.* at 1595.

## IV. ECONOMIC AND LEGAL THEORIES OF PATENTS

The prospect theory was proposed by Edmund Kitch in 1977 in an effort to integrate intellectual property with the theory of property rights.<sup>30</sup> As explained by Burk and Lemley:

Kitch argues that the patent system operates not (as traditionally thought) as an incentive-by-reward system, giving exclusive rights to successful inventors in order to encourage further invention, but as a “prospect” system analogous to mineral claims. In this view, the primary point of the patent system is to encourage further commercialization and the efficient use of as yet unrealized ideas by patenting them, just as privatizing land will encourage the owner to make efficient use of it. Society as a whole should benefit from this equalization of private with social interests.<sup>31</sup>

Under this theory, patents should be granted early in the invention process with broad scope and few exceptions.

The fundamental economic approach of the prospect theory is the “tragedy of the commons”—a “classic economic story in which people with access to common property overuse it. . . . For example, lakes open to the public are likely to be over fished, with negative consequences for the public.”<sup>32</sup> The solution, therefore, is to assign the resources and assets as private property (much like one does for siblings fighting over the same toys). The thinking is that private and public incentives are aligned once individuals have their own property and can exclude others. Privatization encourages owners to make efficient use of the property, and the proper and efficient use of privatized property benefits the public.

Kitch’s prospect theory has been challenged by others who argue that competition, and not monopoly, stimulates innovation. Companies in the marketplace will innovate to avoid losing. Monopolists, on the other hand, can “afford to be lazy.”<sup>33</sup> Furthermore, the legal rights conferred by a patent do not allow the patentee to control future research and development on the pioneered technology. Thus, a patent does not carry out the prospect function envisioned by Kitch.<sup>34</sup> Therefore, patent

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30. *Id.* at 1600 (citing Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 265 (1977)).

31. *Id.* at 1601.

32. *Id.* at 1600.

33. *Id.* at 1604, n. 91.

34. Roger L. Beck, *The Prospect Theory of the Patent System and Unproductive Competition*, 5 RES. L. & ECON 193, 194 (1983).

rights should be narrow and should give less than perfect monopoly control. This theory has been adopted as competitive innovation.

Recently, theoretical focus has been on the cumulative innovation theory. This theory recognizes that a product is not just the result of the initial invention but the result of continuous improvements made thereon. Under this theory, patent rights are allocated between the initial inventor(s) and improvers, thereby taking into account the fact that each discovery builds on previous findings. Patent rights are thus important, but a single patent should not provide an unlimited power to exclude. This theory recognizes that the initial inventor may be entitled to patent claims covering later improvements, but that the improvers also need incentive to innovate. Therefore, granting “blocking patents” should properly balance incentives.<sup>35</sup> To apply the cumulative innovation theory, each subsequent improvement is patentable, but the rights conferred are less than those provided under the prospect theory. Cumulative innovation encourages the grant of divided interests in an innovation to both the original inventor and the improver. With cumulative innovation and multiple blocking patents, strong patent rights only serve to stifle, not encourage, product development.

Another legal theory, also based on limiting divided entitlements is the anticommons theory. The anticommons theory recognizes the problems with divided entitlements and in many respects describes the biotechnology industry.<sup>36</sup> Divided patent rights risk stifling product development when permissions from two or more different patent owners are required. These problems occur either horizontally (different pieces that must be integrated into a product) or vertically (separate patents cover different steps in the product development). A proposed solution to this problem is to consolidate ownership or preclude patent protection altogether.

Closely related is the concept of patent thickets. A single product may include many different, individually patented components. Burk and Lemley point out that:

Anticommons exist where several different inputs must be aggregated together to make an integrated product. Patent thickets, by contrast, occur when multiple intellectual property rights cover the same technology and therefore overlap. The theory of

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35. See Carlson, *supra* note 20, at 362–367.

36. See Michael A. Heller & Rebecca Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 *SCIENCE* 698 (1998); see also, John R. Allison et al., *Valuable Patents*, 92 *GEO L.J.* 435 (2004). For an alternative view that a patent thicket in biotechnology is not apparent from empirical evidence, see David E. Adelman & Kathryn L. DeAngelis, *Patent Metrics: The Mismeasure of Innovation In The Biotech Patent Debate*, 85 *TEXAS L.J.* (forthcoming 2007).

patent thickets emphasizes the importance of limiting both the issuance and the scope of such overlapping patents and the need for bargaining mechanisms that permit the efficient clearance of patent rights.<sup>37</sup>

The patent thicket is best understood in the semiconductor industry where any given microchip may infringe a number of patents, including the process manufacturing patents used to produce the chip. Here, patents are complementary because different inventors independently have patented different components of the larger invention. This is unlike blocking patents (otherwise referred to as improvement patents) resulting from the incremental process of innovation.

As previously noted, outside the context of an industry specific application, none of the patent law theories seems to be correct. The patent laws could be written and legislated in a manner that is industry specific. However, technology and an industry neutral patent act should and can be made to work for the purpose originally designed—to encourage innovation—and it should do so without drastic immediate change in patent policy in this country. To solve the complements problem and cut through the patent thicket, coordination and cooperation among the patentees is necessary.

We maintain that industry-specific legislation will fail first and foremost because technology is constantly changing. For example, what will happen in the future with nanotechnology? Nanotechnology has no scientific disciplinary boundaries and eventually will convolute what we currently regard as standard industries. Secondly, to rewrite the Patent Act for each industry is simply not practical. How will the industries be defined and how often would it have to be amended? How will any statute detail all the specific rules needed for each industry? Third, such legislation will create problems internationally, particularly in light of agreements with other countries where such discrimination is forbidden.<sup>38</sup>

Hence, this Article specifically addresses improvements in legislative, administrative, cooperative licensing, and, when all else fails, compulsory patent licensing arrangements. This may be the only solution for products laden with patent thickets where royalty stacking and threats of injunction serve not only to stifle innovation, but threaten to put a stop to it altogether. While the authors each have different views as to the viability of such a specific legislative reform, we first briefly

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37. Burk & Lemley, *supra* note 24, at 1627.

38. See *e.g.*, Agreement on Trade-Related Aspects of Intellectual Property Rights Jan. 1, 1995, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 33 I.L.M. 1125 (1994) [hereinafter TRIPS]. The TRIPS Agreement binds all members of WTO.

examine the current proposed legislative changes, the proposed new rules by the U.S. Patent Office and then alternative mechanisms such as patent pools and patent clearinghouses that might work. These mechanisms used by the patentees and product developers are designed to promote and advance technology, while at the same time avoid the anti-competitive effects of having cumulative innovations and/or fragmented property rights. Where an aggregation of the various rights is necessary to make effective use of a new innovation and there is a refusal to license by one of many patent owners, compulsory patent licensing may be the only mechanism left to overcome the problem.

## V. PROPOSED U.S. PATENT LAW REFORMS

The federal government of the United States is divided into three branches: the legislative branch headed by Congress, the executive branch led by the President, and the judiciary branch headed by the Supreme Court. Congress is responsible for enacting federal laws and policies and is divided into two houses: the House of Representatives and the Senate. The executive branch implements and executes policy. The President, as the head of the executive branch, enforces the laws and policies enacted by Congress through various departments and agencies, including the U.S. Patent and Trademark Office (USPTO). The USPTO is part of the Commerce Department. One of the many purposes of the Commerce Department is to promote job creation and improved living standards for Americans by creating an infrastructure that promotes economic growth, technological competitiveness and sustainable development.<sup>39</sup> The Supreme Court is the highest court in the United States and has the ultimate authority and responsibility to interpret the U.S. constitution and other questions of law to ensure the American people the promise of equal justice.<sup>40</sup>

In the United States, the statutory patent law is interpreted by the courts, first at the trial court level, the U.S. district courts, then by the only court that hears patent appeals, the Court of Appeals for the Federal Circuit, and finally, of late, on a not so rare occasion, the United States Supreme Court. There is an ongoing, constant adjustment to be made by the courts to the meaning of the legislation as applied to new innovations

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39. U.S. DEP'T OF COMMERCE, DOO 1-1, MISSION AND ORGANIZATION OF THE DEPARTMENT OF COMMERCE (2005). Section 2 identifies the specific mission, function and authority of this department "to foster, promote, and develop the foreign and domestic commerce of the United States."

40. See, e.g., U.S. SUPREME COURT, U.S. SUPREME COURT AND CONSTITUTIONAL INTERPRETATION, [www.supremecourtus.gov/about/constitutional.pdf](http://www.supremecourtus.gov/about/constitutional.pdf) (last visited March 20, 2007).

that were not in existence at the time of the enactment of the Patent Act. The Federal Circuit was designed as a single court of appeals for patent cases to promote certainty in legal doctrine where it was previously lacking to a significant degree. In 1982, the Federal Circuit was formed to establish continuity and consistency in patent law disputes.

However, even with the foundation of a uniform patent law, and to the disappointment and criticism of many, the Federal Circuit has been reluctant to set new standards as a matter of policy, and has followed its sense of judicial restraint in rewriting the Patent Act. This has been criticized as “misguided” in light of the context-specific standards (referred to as “policy levers”), rather than hard and fast rules promulgated by Congress. The belief is that there are mechanisms (such as obviousness, patent misuse and validity) that are intentionally built into this statute that allow broad judicial discretion. But rather than considering patent policy in its decisions, the Federal Circuit is accused of favoring a mode of appellate fact-finding that is a more intrusive than is typical in other circuits. The Federal Circuit is further accused of already making bad policy judgments inadvertently—after all this cannot be avoided, or so the argument goes, because of the inherent nature of discretion in patent law. The line of reasoning follows that failure to articulate policy on an issue is itself a policy decision on that issue. However, this court does not see its role in the government of the United States as a policy maker—and therefore does not want to decide policy, intelligently or otherwise.

While these authors do not address the vast body of law undertaken by the other eleven circuits, there is some comfort in knowing that three or twelve appellate judges will not undo or change what the legislative branch has studied, voted on and promulgated. We agree that the Federal Circuit has substantial freedom to tailor the general legal standards set out by the Patent Act. We also agree that the Federal Circuit may be in the best position to profile an industry and adapt innovation policy according to a profile. But we do not agree that the Federal Circuit has ignored or washed its hands of policy—rather we believe the Federal Circuit does not see policy-making at the industry level as proper. Policy-making is for the legislature, and to some degree the executive branch, but it is not the job of a court of appeals such as the Federal Circuit. So, the Federal Circuit’s alleged adoption of minimalist opinions, that is, a narrow, “incompletely theorized” decision as opposed to an articulate comprehensive theoretical framework, is at best a double-edged sword.<sup>41</sup>

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41. Burk & Lemley, *supra* note 24, at 1669 (citing Cass R. Sunstein, *Incompletely Theorized Agreements*, 108 HARV. L. REV. 1733, 1735 (1995)).

### A. Patent Reform

Change is often controversial, and like any other change, the proposed reforms to the Patent Act have generated an ongoing debate. Current attempts to reform the patent system began with the introduction of H.R. 2795 (“Patent Reform Act of 2005”) on June 8, 2005.<sup>42</sup> This proposed bill sought to change the patent system in the United States to a first-inventor-to-file system.<sup>43</sup> To accommodate this type of system, the definition of prior art was changed and a “reasonable accessibility” standard implemented.<sup>44</sup> Furthermore, a post-grant opposition system was proposed to permit anyone to prove invalidity by preponderance of the evidence within the first nine months following the issuance of a patent, or within six months after receipt of a threat of a lawsuit.<sup>45</sup>

Other reforms were directed at eliminating the requirement to disclose the best mode, and codifying the duty of candor to the USPTO. Under the proposed statute, inequitable conduct determinations would be removed from the jurisdiction of the district court, and given to the USPTO Office of Enrollment and Discipline.<sup>46</sup> Moreover, the bill directed the USPTO Director to issue regulations limiting continuation applications to address abuses, required the publication of all pending applications after eighteen months, and further permitted the filing of applications in the company or organization name rather than the inventor’s name such as many foreign countries allow. The bill allowed third parties to submit prior art for any pending application within six months after publication.

Limitations on damages for patent infringement to profits that are the result of the “inventive contribution” were proposed together with clear and convincing evidence that the infringer intentionally copied the patented invention. Royalty figures must be calculated based on the value of novel and nonobvious features of the patented invention and not the value of the commercial product as a whole. This proposed legislation required a court to consider the fairness of an injunction in light of all the facts and the relevant interest of the parties. The bill further proposed to expand the prior user rights defense by striking the limitation to methods of doing or conducting business and certain other limitations.

On July 26, 2005, the Chairman’s Substitute Amendment was introduced that provided for the same changes as those in H.R. 2795, except it deleted changes related to injunctions and continuation applications.

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42. Patent Reform Act of 2005, H.R. 2795, 109th Cong. (2005).

43. *Id.* at § 3(a).

44. *Id.* at § 3(b).

45. *Id.* at § 9.

46. *Id.* at § 5.

The amended proposal added a venue provision that requires the transfer of a lawsuit to a more appropriate forum in certain patent infringement cases.<sup>47</sup> The substituted amendment was followed by the introduction of the Industry Coalition “Redline” on September 1, 2005. This draft, in addition to the changes proposed by the Chairman’s Substitute Amendment, sought to repeal § 271(f), provisions related to infringement of patent rights where a component or substantial portion of the component to a patented invention is supplied without authority. On August 3, 2006, Senators Hatch and Leahy introduced the Patent Reform Act of 2006.<sup>48</sup> This bill was based on the Industry Coalition “Redline” and added provisions that (1) require courts to award attorney’s fees to the prevailing party unless the losing party was “substantially justified” or under special circumstances that make the award unjust; (2) provide a right to an interlocutory appeal on claim construction determinations within 10 days after an order is entered; and (3) give the Director of the USPTO the authority to promulgate rules and regulations to carry out provisions of the act as the Director determines is necessary.<sup>49</sup>

The proposed legislative changes to the Patent Act are sweeping. Certain amendments are needed to harmonize the U.S. patent system with the rest of the world.<sup>50</sup> However, only a few of the revisions target patent trolls, the non-practicing patentees who are not “working” or using the technology claimed, but rather, as part of a patent thicket, seek to extract royalties from businesses successfully marketing products. While improving the quality of U.S. patents is a major objective of both the legislative and executive branches of the U.S. government, the effect of these reforms on patentees who do not work the claimed inventions remains dubious.<sup>51</sup>

“Patent trolling” was conceived, established, and has been developed in the United States and, as of yet, has not reached epidemic proportions in foreign countries. There are several possible reasons for this. First,

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47. Chairman Smith’s Amendment in the Nature of a Substitute to H.R. 2795, 109th Cong. (2005), available at <http://www.ipo.org/AM/Template.cfm?Section=Home&template=/CM/ContentDisplay.cfm&ContentID=3350>.

48. Patent Reform Act of 2006, S. 3818, 109th Cong. (2006).

49. Giving authority to the Director to carry out provisions of the Patent Act is believed to be a way to provide the USPTO with the legislative tool to alter the number of permitted continuation applications and the number of claims to be submitted for examination – a right which the USPTO does not currently have.

50. One such harmonizing change would be to make priority in the U.S. patent system based on “first to file” instead of “first to invent”.

51. John C. Paul, D. Brian Kacedon & Michael V. O’Shaughnessy, *Patent Trolls: A Stereotype Causes A Backlash Against Patents and Licensing*, LES NOUVELLES 224 (2006) (“These changes, however, will not just affect the few bad actors who abuse the system, but will unnecessarily burden all patent owners and licensors regardless of the quality of their patents or the nature of their licensing and enforcement activities.”) *Id.* at 232.

many foreign nations do not provide broad protections for business method patents, as does the United States. Second, the likelihood of prevailing outside of the United States is often not as high, with limited or no discovery available in many countries. Third, the laws of many foreign nations are such that actual damages might not be as great, and in certain countries there is no recovery for willful infringement whatsoever. Finally, in other countries, the recovery of attorney's fees is often available for the prevailing party, which acts as a deterrent to filing a lawsuit.

Proposed legislation now awaits review; a new Congress who consider policies to promote innovation, weigh the potential harm to competition, and be cognizant of harmonization efforts with other nations. Laws limiting the ability to obtain treble damages and laws providing for the recovery of attorney's fees may present a disincentive to patent trolls. Conversely, some of the proposed changes may actually encourage infringing activity. For example, without an adverse fiscal impact of a willful infringement finding, certain infringing activities could become more cost effective and less risky. Furthermore, certain reforms are not specifically targeted to address "hold-ups", wherein a payment is demanded for more infringing features of a product after the infringer has already made a huge investment in the design, manufacture, market, and launch of product.

#### B. *U.S. Patent Office 2006 Proposed Rule Changes*

Patent law is further complicated by the fact that it has two sides: procurement of the patent right and enforcement. Since 1836, patent rights have been procured through the USPTO by a process that is imprecise, at best. As a practical matter, not all issued patent claims are valid, nor will they ever be. Currently, however, a reduction in the number of invalid patents issued by the USPTO is more desirable than ever. While changes in patent prosecution practice may be required to prevent invalid patents from issuing, not all of the rule changes proposed in January 2006 center on improving the quality of issued patents. Rather, many of the proposals are directed towards the efficiency of the USPTO. We believe that, despite the need to revise certain rules of practice, priority should be given to proposed rule changes that reduce the number of invalid patents, and not only rule changes that reduce the workload of the USPTO. Furthermore, while efficiency of examination should improve the quality of issued patents, wholesale changes to the rules as proposed may actually make matters worse.

Some patent applicants abuse continuation practice by filing numerous continuation applications in an attempt to: (1) wear down the

examiner; (2) surprise a company with a successfully marketed product by obtaining claims that read on that product; and/or (3) obtain narrow claims quickly and then continue to argue for broader ones.<sup>52</sup> Although the USPTO's primary goal had been to increase efficiencies, the end result is actually a decreased workload on examiners. While the proposed rules should help in reigning in the number of patent trolls, an additional rationale has been offered. According to the USPTO, historically only a small number of patent applications have required more than one continuation, continuation-in-part (CIP), or request for continued examination (RCE). The overall implication is that the small percentage of applicants who "game" the system may be patent trolls or other non-innovators.

Basically, the USPTO proposed radical and complex changes to claim examination and continuation practice.<sup>53</sup> The changes to claim examination procedure severely limit the number of claims allowed for initial examination. Regarding continuation practice, the USPTO proposes to austere limit the opportunity for continued presentation of claims. However, in order to promote innovation and issue valid patents, there are a number of reasons why more than one continuation application may be necessary, including rebutting an obviousness rejection with evidence, the discovery of new prior art not known at the time of filing, or simply the need for an application on file in the event there is a need to refocus the invention at some point in the future.<sup>54</sup>

The issuance of valid U.S. patents requires a thorough and complete prior art search and examination. In its comments on the proposed changes to continuation practice, the American Intellectual Property Law Association (AIPLA) summarized this dilemma, placing the impact on quality patents at the forefront:

If the quality of an issued patent is measured by whether it adequately protects the invention, whether it is respected by competitors, and whether it is likely to be found valid and

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52. Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. REV. 63 (2004).

53. Changes to Practice for Continuing Applications, Requests for Continued Examination Practice, and Applications Containing Patentably Indistinct Claims, 71 Fed. Reg. 48 (January 3, 2006) (to be codified at 37 C.F.R. pt. 1).

54. See, e.g., Letter from Richard P. Berg, Partner, Ladas & Parry L.L.P., to Jon Dudas, Under Sec'y of Commerce for Intellectual Prop. & Dir. of U.S. Patent & Trademark Office (May 3, 2006), at 3, available at [http://www.uspto.gov/web/offices/pac/dapp/opla/comments/fpp\\_continuation/ladas\\_parry.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/comments/fpp_continuation/ladas_parry.pdf).

enforceable by the courts, it is difficult to understand how these proposed rules would promote that goal.<sup>55</sup>

There was a general consensus in the public comments that the USPTO should consider alternative approaches to improve the efficiency of patent examinations. Furthermore, some have suggested that these proposed actions are in excess of the authority conferred by Congress in 35 U.S.C. § 2(b)(2)(A), and that these measures would limit an applicant's right to continued examination, which is guaranteed under 35 U.S.C. § 132(b). It is argued that a policy-driven statutory timeliness requirement is more prudent than an administrative limitation on the number of potential applications.<sup>56</sup> Also suggested is a statutory framework that makes applicants more responsible in guiding the Patent Office through the examination process by creating incentives such as safe harbors from inequitable conduct. Indeed, Eli Lilly encouraged the USPTO to work with Congress to secure certain reform initiatives and "work for their enactment."<sup>57</sup>

An international influence is also reflected in the comments. Several parties suggested that the current restriction practice be replaced with the unity of invention practice set by the Patent Cooperation Treaty.<sup>58</sup> In addition, the use of other searching authorities has been suggested, as well as the adoption of the practices of other patent offices such as the European Patent Office (EPO) and Japan Patent Office (JPO) with respect to searching strategies and protocols.<sup>59</sup>

The Medical Device Manufacturers Association (MDMA), a trade association whose stated mission is "to promote public health and improve patient care through the advocacy of innovative, research-driven medical device technology" specifically addressed the effect of the new rules on the innovation of medical devices:

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55. Letter from Michael K. Kirk, Executive Dir., Am. Intellectual Prop. Law Ass'n, to Jon Dudas, Under Sec'y of Commerce for Intellectual Prop. & Dir. of the U.S. Patent & Trademark Office (Apr. 24, 2006), at 7, available at [http://www.aipla.org/Content/Content-Groups/Issues\\_and\\_Advocacy/Comments2/Patent\\_and\\_Trademark\\_Office/20066/ContinuationLetter.pdf](http://www.aipla.org/Content/Content-Groups/Issues_and_Advocacy/Comments2/Patent_and_Trademark_Office/20066/ContinuationLetter.pdf).

56. *E.g.*, Letter from Arvie J. Anderson, Patent Counsel, Eli Lilly & Company, to Jon Dudas, Under Sec'y of Commerce for Intellectual Prop. & Dir. of the U.S. Patent & Trademark Office (May 2, 2006), at 3, available at [http://www.uspto.gov/web/offices/pac/dapp/opla/comments/fpp\\_claims/eli-lilly.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/comments/fpp_claims/eli-lilly.pdf).

57. *Id.* at 5.

58. *See, e.g.*, Letter from Alan Hesketh, Vice President & Gen. Patent Advisor, Pfizer Inc., to Robert W. Bahr, Senior Patent Attorney, and Robert A. Clarke, Deputy Dir. Office of the Deputy Comm'r for Patent Examination Policy (May 3, 2006), at 5, available at [http://www.uspto.gov/web/offices/pac/dapp/opla/comments/fpp\\_claims/pfizer.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/comments/fpp_claims/pfizer.pdf).

59. Letter from Arvie J. Anderson to Jon Dudas, *supra* note 56; Letter from Alan Hesketh to Robert W. Bahr & Robert A. Clarke, *supra* note 58, at 3.

We understand that several life-sciences based organizations have submitted comments in reaction to these proposed rules. The potential negative impact is very similar across our extremely research-driven disciplines: the rule changes will cause significant and costly administrative burdens on patentees, decrease the level of protection for new inventions, thereby decrease the value of new inventions, decrease the level of investments in the industry, negatively influence industry's willingness to engage in fundamental R&D and quash innovation to the extent there is a perception by industry that IP rights are more onerous and costly to obtain.<sup>60</sup>

This trade organization further provided important comments regarding economic policy considerations:

The founders of the United States gave Congress the power to 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." Accordingly, our government implemented a patent system that drives innovation and advances research and development to benefit society. The Patent system, in turn, stimulates job creation while bringing about new products and services. In the medical device industry, companies have been able to continually increase the quality of diagnosis and care of patients because of the availability of robust patent protection for their innovations. The medical device industry is one of the bright aspects of our economy and one of the biggest exporters.

The Patent Office's proposed rules are laudably intended to address patent application quality, pendency and backlog. The proposed rule changes, however, will severely limit the ability of medical device companies to secure appropriate patent protection on their inventions in exchange for the disclosing the technology to the public—the quid pro quo in the patent system. Without that patent protection, medical device companies will not be able to attract financing for products when the scope of protection is left diminished or ambiguous. Moreover, MDMA believes these rules, if adopted, will likely increase both the backlog and pendency of applications. The cumulative effect of

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60. Letter from Mark Leahy, Executive Dir. Medical Device Manufacturers Ass'n, to Jon Dudas, Undersecretary of Commerce for Intellectual Prop. & Dir. of the U.S. Patent & Trademark Office (May 3, 2006), at 1, *available at* [http://www.uspto.gov/web/offices/pac/dapp/opla/comments/fpp\\_continuation/mdma.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/comments/fpp_continuation/mdma.pdf).

these outcomes will be to chill medical device innovation which is characterized by a highly iterative and fast-paced product development process.<sup>61</sup>

The effect of the rules on innovation was blatantly described as follows:

A medical device's company obviously needs money to support its product development. In order to justify an investment from an individual or corporation in this development, a medical device company typically relies heavily on patents. Indeed, investors in the medical device sector expect a patent portfolio that protects the idea on several different levels and directions before funding the development. Moreover, investors expect that a medical device company will be able to modify the patent claims it seeks as different aspects of its original idea manifest themselves during development. These expectations are a necessary part of the equation an investor uses to determine the likelihood of making money on the investment. Because of these expectations and the fierce competition for investment dollars, medical device companies typically file for patents as early as possible and as often as possible.

The Patent Office's proposed rules, however, would make it difficult for medical device companies to meet these investor expectations and thus gain the funding needed to bring innovative and live-saving technologies to fruition. Without the potential for strong protection for medical inventions, investors will go elsewhere to spend their dollars.<sup>62</sup>

Similarly, to underscore the importance of and reliance on continuation practice to adequately protect inventions in the healthcare sector, a university pleaded its case as follows:

For example, a scientist at a university may identify a class of compounds that will treat a particular cancer, and file a patent application on that class. But years of additional research will be necessary to identify the exact compound that will provide the most effective treatment in humans while minimizing toxicity. The current continuation practice gives the university and its licensees the time to obtain appropriate patent protection of the commercially valuable compound, which given the costs of bringing the compound to market, is a necessary factor for

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61. *Id.* at 2.

62. *Id.* at 2–3.

pharmaceutical companies to invest in the technology. This fact is reflected by examining the patent protection of eight of the most currently used cancer drugs. Only one drug, Epogen, is protected by patents having only one continuation, request for continued examination (RCE), or continuation in part (CIP) and containing ten or fewer claims. The remaining seven drugs are protected by patents that resulted from more than one continuation, RCE, or CIP and contained more than ten claims. The remaining seven, Procrit/Epex, Eloxatin, Gleevec/Glivec, Gemzar, Lupron, Taxotere, and Herceptin, have helped countless numbers of patients and account for approximately 37% of the cancer market; while, Epogen accounts for approximately 13% of the cancer market.<sup>63</sup>

Unfortunately, while streamlining the process of obtaining a valid U.S. patent, the USPTO's proposed rule changes may adversely affect numerous industries. Moreover, the proposed rule changes will not eliminate patent thickets or hold-ups where a patentee, seeking to obtain a royalty, threatens to shutdown the marketing of a new innovation that could be lifesaving device. Other mechanisms must be pursued to address these problems.

## VI. OTHER MECHANISMS: PATENT POOLS AND PATENT CLEARINGHOUSES

While licensing arrangements always carry the risk of anti-competitive behavior, coordination between patentees can solve the problem of patents that overlap technologies and products, resolve claims of blocking patents, and be highly pro-competitive.<sup>64</sup> Antitrust laws have to be enforced in a way that is responsive to the operation and costs associated with doing business under our current patent system.

### *A. Patent Pools*

Patent pools are an aggregation of patent rights that are the subject of cross-licensing arrangements, whether the rights are transferred by the patentee to another licensee or a third party entity. Patent pools are established specifically to administer the patent rights pooled.

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63. Letter from Robert E. Barnhill, Vice Chancellor of Research & Tech. Transfer, the Univ. of Tex. Sys. & Arjuna S. Sanga, Assoc. Vice Chancellor for Tech. Transfer, The Univ. of Tex. Sys., to Robert A. Clarke, Comm'r for Patents, U.S. Patent & Trademark Office (May 3, 2006) at 2, available at [http://www.uspto.gov/web/offices/pac/dapp/opla/comments/fpp\\_continuation/univ\\_texas.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/comments/fpp_continuation/univ_texas.pdf).

64. See Shapiro, *supra* note 3.

A patent pool is an agreement or contractual arrangement between two or more patentees to license their patent rights to one another and third parties. Patent pools can comprise a few patents or hundreds of patents. The patent rights are consolidated into a single entity such as a partnership or limited liability corporation that sells licenses to the portfolio of pooled patent rights. The patent pool establishes methods of patent valuation and for dividing the royalty stream generated through licensing. Patent pools offer a mechanism for solving the problem, which arise when different inventors patent different components of an invention that uses both.<sup>65</sup>

There are many benefits of patent pools. First, if a putative product is covered by a large number of patents, it can be difficult, if not impossible, to develop the technology into a product because of the buildup of licensing fees. Second, as recognized as early as 1793, there are dominant patents (pioneer patents) and subservient patents (improvement patents); these patents “block” each other. While blocking patents provide some incentive to innovate, significant legal entrapments result. Cross-licensing arrangements are often the most feasible result. Third, not all issued or granted patents are valid, but invalidating patents is an expensive time consuming effort and creating a patent pool may be more efficient than litigation. Fourth, patent claims may be facially broad, but have a relatively narrow scope. Therefore, the patent may actually be a competing patent and not a blocking patent. This is difficult to determine, however, without litigation. If pooled, the problems related to figuring out what specific technology a patent covers disappear.

Cutting through a patent thicket requires coordination among the holders of the patent rights. Costs of coordination must be overcome and, because coordination may eliminate competition, the complex interaction between public and private interests must be dealt with, as well as any possible antitrust issues. Naturally, the concept of intellectual property rights will always conflict with the goals and objectives of antitrust laws to some degree. However, while undue deference to patents threatens the core principles of antitrust law, it is imperative that antitrust restraints on patent pools continue to be curbed to allow for the development of new technology.

Critics have maintained that patent pools create certain anticompetitive effects.<sup>66</sup> The negative effects of patent pools include inflated costs of goods, a legal shield for invalid patents, and possible collusion and

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65. Carlson, *supra* note 20, at 364–65.

66. Joanne Clark et al., *Patent Pools: A Solution to the Problem of Access in Biotechnology Patents?* at 10 (Dec. 5, 2000), available at <http://www.uspto.gov/web/offices/pac/dapp/opla/patentpool.pdf>.

price fixing.<sup>67</sup> Pools, however should not be designed for competing technologies or to shelter invalid patents. By maintaining a proper balance with antitrust laws, anticompetitive patent pools will be discouraged. Moreover, as noted by specialists from the Patent Office, there is nothing that stops an invalid patent that is part of a patent pool from being returned to the public domain.<sup>68</sup> With the oversight by the Department of Justice and FTC, the safeguarding of invalid patents in a patent pool should be prevented.<sup>69</sup>

Moreover, there are numerous examples of successful patent pools, including several that the Department of Justice has reviewed without initiating antitrust enforcement actions. For example, the MPEG-2 patent pool was created in 1997 by major electronic manufacturers to cover the fundamental technology providing for the efficient transmission, storage and display of digitized images and sound over numerous types of broadcasting protocol.<sup>70</sup> In 1998 and 1999, patent pool arrangements were formed over DVD-ROM and DVD-Video Formats.<sup>71</sup> Other patent pools have been created over new IEEE external bus standards and FDA approved manufacturing of lasers used in eye surgery.<sup>72</sup>

To be effective, however, patent pools must typically serve a clear technological platform. Unfortunately, this is often missing in biotechnology since there is no one “standard” set up. But if a standard is highly accepted, each patent related to it may confer a significant amount of market power on its owner. If patentees are not cooperating in cross-licensing their patents on reasonable terms, however, the standard itself may be subject to hold-up.<sup>73</sup>

Therefore, patent pools must be designed to serve both the public and private sectors. Innovation and the public are both served by swift access to patent rights and streamlined licensing. Patentees are served by the structured and simplified licensing of packaged patent rights, which produces additional revenue for future developments that might otherwise not be available (with or without litigation). In an ideal world, this would be the least intrusive solution to the problem of hold-ups. Unfortunately, if a patentee opts out of this voluntary system, the issue of hold-ups is still real. Hence, a system that deals with the intransigent patentee is still necessary.

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67. *Id.* at 10–11.

68. *Id.*

69. *See e.g.*, U.S. DEPT. OF JUSTICE & FEDERAL TRADE COMM’N, ANTITRUST GUIDELINES FOR LICENSING OF INTELLECTUAL PROPERTY (1995), available at <http://www.usdoj.gov/atr/public/guidelines/0558.pdf>.

70. Clark, *supra* note 66, at 13.

71. *Id.* at 14–15.

72. *Id.* at 16.

73. Shapiro, *supra* note 3, at 20.

### B. Patent Clearinghouses

Independent and nonprofit patent clearing houses are agencies that bring together seekers and providers of goods, services and information in an effort to match supply and demand. A patent clearinghouse functions similar to a copyright collective such as ASCAP<sup>74</sup> in that it administers the rights of several patent owners. Authority by the patent owner is granted to the agency to set license terms to others who would then be permitted to use the patent. The patent clearinghouse is made available to all users of the technology and users only pay for the patents they need at a standard fee. Since there is no negotiation, the transaction costs would presumably be low.

The problem with a patent clearinghouse is that an entire industry must agree to participate, which requires government intervention to establish such an agreement. In 1917, prior to U.S. involvement in World War I, airplane manufacturers pooled patent rights as a result of a recommendation by then Assistant Secretary of the Navy Roosevelt, forming the Manufacturer's Aircraft Association.<sup>75</sup> Similarly, during World War I, the U.S. government took over the radio industry for national defense purposes. In 1924, Associated Radio Manufacturers merged the radio interests of major companies such as AT&T, Westinghouse and GE to establish radio part, airway frequency location, and television transmission standards.<sup>76</sup>

Currently, there is a movement to facilitate access to patented genetic inventions through use of a clearinghouse.<sup>77</sup> To promote this effect, several types of clearinghouses have been proposed, some of which simply provide access while others provide access and use of the patented invention either on a royalty-free or royalty-bearing basis.<sup>78</sup> Unlike patent pools, the economic effect of implementing a clearinghouse for genetic invention has not yet been determined and requires further analysis.<sup>79</sup>

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74. For a description of ASCAP, see The American Society of Composers, Authors, and Publishers, <http://www.ascap.com> (last visited Mar. 20, 2007).

75. *Id.* (citing Harry T. Dykman, *Patent Licensing within Manufacturer's Aircraft Association (MAA)*, 46 J. PAT. OFF. SOC'Y 646, 648 (1964).) The two major patent holders were The Wright Company and the Curtiss Company. *Id.*

76. Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 891-92 (1990).

77. Esther van Zimmeren et al., *A Clearinghouse for Diagnostic Testing: The Solution to Ensure Access to and Use of Patented Genetic Inventions*, 85 BULL. OF THE WORLD HEALTH ORG. 352 (2006).

78. *Id.* at 353.

79. *Id.* at 356.

## VII. COMPULSORY PATENT LICENSING LAWS AS AN ALTERNATIVE

Antitrust authorities in the United States and Europe do not currently handle unilateral refusals to deal in the same way. Copyright decisions handed down by courts of appeals in both venues are demonstrative of the different approaches.<sup>80</sup> For example, in the United States, in deciding whether Xerox had to license its copyrighted manuals together with its patented repair parts, the Federal Circuit held that Xerox did not have a duty to sell or license its intellectual property.<sup>81</sup> Conversely, the European Court of Justice (ECJ) recently applied the “essential facilities” doctrine and ordered compulsory licensing in a case where a new product could not compete without the “indispensable” copyrighted market tool for pharmacies and doctors.<sup>82</sup> While the ECJ expressed no doubt in its decision, the impact of the decision on incentives to innovate is unclear.

The ECJ, interpreting the relevant European Community Treaty provisions, brings to light historical attitudes toward intellectual property rights and the overall fear that these property rights divide rather than integrate the market and the overall economy. There is some reason to believe that Europe may have gone too far.<sup>83</sup> The United States, as compared with Europe, is already an integrated market and unlike the ECJ, U.S. courts have no such imperative to integrate. Furthermore, it seems that courts in the United States continue to avoid adoption of general compulsory patent licensing, particularly in cases involving a unilateral refusal to deal. However, it will not be long before the Federal Circuit must deal with this issue for patents.

In the United States, compulsory patent licensing provisions have been granted by statute or by courts in at least five instances. First, the Atomic Energy Act allows for such licensing when the patented innovation is “[u]seful in the production or utilization of special nuclear material or atomic energy.”<sup>84</sup> The Atomic Energy Commission can determine whether a compulsory patent license should be granted<sup>85</sup> and the reasonable royalty owed by the licensee.<sup>86</sup> Second, the Clean Air Act also provides for compulsory patent licenses when the patented innovation is

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80. See generally Melanie Reichenberger, Note, *The Role of Compulsory Licensing in Unilateral Refusals to Deal: Have the United States and European Approaches Grown Further Apart After IMS?* 31 J. CORP. L. 549 (2006).

81. *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322 (Fed. Cir. 2001).

82. Case C-418/01, *IMS Health GmbH & Co. OHG v. NDC Health GmbH & Co. KG*, 2004 E.C.R. I-05039, 4 C.M.L.R. 28 (2004).

83. See Reichenberger *supra* note 80, at 550.

84. 42 U.S.C. § 2183(c) (1994).

85. *Id.* § 2183(d)-(e).

86. *Id.* § 2183(g).

necessary to comply with the emission requirements, no reasonable alternative is available, and where nonuse of the patented innovation would lead to a “lessening of competition or a tendency to create a monopoly.”<sup>87</sup> A federal district court can, with the Attorney General’s assistance, determine whether a compulsory patent license should be granted and set the reasonable terms.<sup>88</sup> Third, the Bayh-Dole Act<sup>89</sup> permits compulsory patent licensing when a recipient of federal grants and contracts “has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention.”<sup>90</sup> The federal government can also exercise its “march-in rights” by showing that a compulsory patent license is necessary “to alleviate health or safety needs,”<sup>91</sup> or “to meet requirements for public use specified by Federal regulations.”<sup>92</sup> Fourth, the Plant Protection Act allows the Secretary of Agriculture to grant a compulsory patent license when it is “necessary in order to ensure an adequate supply of fiber, food, or feed in this country and its owner is unwilling or unable to supply the public needs.”<sup>93</sup> Finally, courts have granted compulsory patent licenses when the patentee engaged in anticompetitive activity.<sup>94</sup>

The use of compulsory patent licensing in antitrust actions is meant to protect a small entity attempting to enter a market dominated by a large entity. If there are multiple companies in the same market, and each entity requires a license to the patented technology of the other entity, the parties cross-license the technology. One of the asserted problems with the U.S. patent system is that a patent troll is not looking to cross-license or to enter a market. Instead, the troll attempts to use its right to exclude to benefit from the market share created by another entity.

So, should compulsory licensing of patents be imposed at all? If so, under what circumstances? While analogies between real property and intellectual property are shallow and have very limited application, recent decisions about eminent domain power in the wake of economic rejuvenation may indicate the Supreme Court’s view on the balance be-

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87. 42 U.S.C. § 7608 (1994).

88. *Id.*

89. 35 U.S.C. §§ 200–212 (1994).

90. *Id.* § 203(a)(1).

91. *Id.* § 203(a)(2).

92. *Id.* § 203(a)(3).

93. 7 U.S.C. § 2404 (1994).

94. *See* *United States v. Glaxo Group Ltd.*, 410 U.S. 52 (1973) (granting a compulsory license where the patentees were a group of pharmaceutical companies that had a patent pooling arrangement); *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997) (examining accusations that Kodak was monopolizing the photocopy machine equipment service market).

tween the importance of economic growth and the right to possess unused or abandoned private interests. In a recent Supreme Court decision, the majority noted that a State may constitutionally use its eminent domain power to transfer property from one private party to another if the purpose of the taking is future use by the public.<sup>95</sup> The court reasoned that the city's exercise of eminent domain power satisfied the constitutional public use requirement because the development plan served a public purpose. Justice Stevens, writing for the majority, concluded that "[p]romoting economic development is a traditional and long accepted function of government."<sup>96</sup>

Because movement is afoot to change the patent system based on economic distress, including a presupposition that patent trolls must be stopped, one prudent course may be to adopt less intrusive changes. A general compulsory patent licensing provision may be dangerous because such legislation will have serious implications on businesses that rely heavily on intellectual property to prosper, such as pharmaceutical companies and medical device manufacturers.<sup>97</sup> Our courts should not be converted into a regulatory body, setting prices, licensing terms, and other industry requirements. Compulsory patent licensing, however, may be a way to deal with specific monopolistic behavior or extortionists (like patent trolls); there will likely be much debate to come on this subject.

Policy arguments over compulsory patent licensing must be taken into consideration. Congress is best suited to handle such a debate. The patent and antitrust laws need to be considered together when developing a plan for the future. Compulsory patent licensing is not difficult to justify in light of the antitrust laws alone. But, how will the decision to order compulsory patent licensing influence the incentive to innovate? The goal of antitrust law is to facilitate a competitive market, and consumers, rather than competitors, are the intended beneficiaries of the law.<sup>98</sup>

In contrast, the patent laws benefit the public through innovation and provide firms an incentive to invest in innovation. Many criticize an antitrust encroachment on the boundaries of patent rights. Antitrust laws and associated compulsory patent licensing is thought by some to "punish" the innovators for their success. Fair use of patent rights may help in equalizing the laws of antitrust and patents. Compulsory patent licensing, however, must be a remedy of last resort. As previously noted, the

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95. *Kelo v. City of New London*, 545 U.S. 469, 477 (2005).

96. *Id.* at 484.

97. F. M. SCHERER, *THE ECONOMIC EFFECTS OF COMPULSORY PATENT LICENSING*, New York University Monograph Series in Finance and Economics (1977).

98. *Id.* at 555.

proper use of compulsory patent licensing is to combat actual antitrust violations—“monopolies in the information age.”<sup>99</sup> Beyond antitrust considerations, compulsory patent licensing is not difficult to justify in specific circumstances, as there are many public policy reasons for such licensing.<sup>100</sup> However, compulsory patent licensing is in tension with the goals and purpose of the Patent Act.

In light of the Supreme Court decision in *eBay Inc. v. MercExchange, L.L.C.*,<sup>101</sup> district court judges need not issue a permanent injunction in a patent infringement case where the patentee is not practicing the claimed invention. Money damages appear to be the preferred remedy available to a non-practicing patentee. It is noteworthy that 35 U.S.C. § 271(d)(4) does not require a patentee to license or use its technology—essentially legalizing refusals to license in the United States.<sup>102</sup> Unlike copyright law, there is no fair use defense in patent law. However, after *eBay*, enactment of a limited compulsory patent licensing provision may in fact be a mere codification of *eBay* and may not be as great a cause for alarm as some fear.

Since most antitrust problems with patent rights relate to challenges over agreements, licensing practices, or other collusive conduct, we offer below a step-by-step analysis that could serve as a basis for implementing compulsory patent licensing guidelines specifically directed to address only those instances where a patentee who not utilize its patent rights (or work its invention) seeks to obtain a royalty from another who has a successful commercial product covered by a patent thicket.

### 1. Is the Requestor Infringing or Likely to Infringe?

To obtain a compulsory patent license (“CPL”), the requestor would first have to demonstrate that the requestor’s product would likely in-

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99. See Reichenberger, *supra* note 80, at 563 (arguing that compulsory licensing should be used a “a last resort” remedy).

100. Richard T. Jackson, *A Lockean Approach to the Compulsory Patent Licensing Controversy*, 9 J. TECH. L. & POL’Y 117 (2004) (making a case in favor of compulsory patent licensing by using the labor theory analysis); Kurt M. Saunders, *Patent Nonuse and the Role of Public Interest as a Deterrent to Technology Suppression*, 15 HARVARD J.L. & TECH. 389, 434 (2002) (arguing that it is in the public interest to ensure that patent technology is not suppressed); Joseph A. Yosick, Note, *Compulsory Patent Licensing for Efficient Use of Inventions*, 2001 U. ILL. L. REV. 1275, 1277 (contending that compulsory patent licensing would promote public interest without affecting inventors’ incentives).

101. *eBay Inc. V. Mercexchange, L.L.C.*, 126 S. Ct. 1837 (2006)(finding that the same principles and four factor test applied to permanent injunctions in equity applied to disputes under the Patent Act).

102. *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1215 (9th Cir. 1997) (quoting *United States v. Westinghouse Elec. Corp.*, 648 F.3d 642, 647 (9th Cir. 1981)) (“The right to license [a] patent exclusively or otherwise, or to refuse to license at all, is the ‘untrammelled right’ of the patentee.”).

fringe the patent in question. A requestor may make this request when the patentee has filed a patent infringement suit or has threatened to file such a suit. In such an instance, the first factor is easily met. If however, the requestor is not sued or there is no reasonable apprehension of a law suit, then the requestor must demonstrate that his product will likely infringe the patent in question.

#### 2. Is the Patent in Question Part of a Patent Thicket?

The requestor would then need to demonstrate the need to obtain a license from numerous patent holders in order to sell her product. This inquiry is to ensure that the CPL remedy is specific to patents in patent thickets. Widespread use of CPLs should not be encouraged as it would likely have a negative impact on innovation. However, a limited use of CPLs would likely have a negligible effect on innovation and at the same time assist society in addressing the pressing issue of hold-ups.

#### 3. Is the Patentee Working the Invention?

Next, the requestor would have to demonstrate that the patentee was not practicing the patent. To this end, a fact finder would want to know whether the patentee invested large amounts of capital aimed at commercializing the claimed invention; whether the patentee created a firm that has as its aim to commercialize the claimed invention; whether the patentee hired experts that can commercialize the claimed invention; and whether the patentee was diligent in this endeavor.

#### 4. Does the Patentee Have a Legitimate Business Reason for not Practicing the Invention?

A patentee may have a legitimate business reason for not practicing the claimed invention. The legal analysis should examine whether the claimed invention was meant to prevent others from competing with the patentee's similar product; whether the patentee was bringing a similar product to market; or whether the claimed invention was a reasonable alternative to another patented device, composition, or method. In such instances, a CPL should be denied. If the patentee is engaging in anti-competitive activities in violation of antitrust provisions, then there are alternative remedies specifically geared to address that problem.

#### 5. Is a Reasonable Alternative Unavailable?

Like the CPL provision in under the Atomic Energy and Clean Air Acts, CPLs should be made available only if a reasonable alternative is unavailable. To this end, a fact finder would determine whether it would be practicable to design around the claimed invention or whether an

alternative is reasonably available. However, the requestor may have invested so much time, money and effort in the marketed product and may be so far along in the development process that a change may not be practicable. In such a situation, a fact finder would determine whether the downstream product was so far along the commercialization route that it would be too onerous to require a design-around, and at which point in time the requestor was aware of the patent in question. Moreover, the fact finder would determine whether the requestor knew or should have known of the patent in question before beginning commercialization, and whether the requestor was diligent in reviewing the pending patent applications and issued patents. If the requestor knew of the patent's existence, he should not now be able to argue that a change would be too onerous. On the other hand, if the requestor conducted a thorough review of the pending patent applications and issued patents, and only became aware of the patent after he has successfully begun to market the product, requesting major changes would likely be too burdensome. Lastly, the fact finder should also determine whether the patent in question claims a foundational or pioneering breakthrough. In such a case, the presumption should be against granting a CPL as antitrust provisions already provide a remedy for such a situation.

#### 6. Have Negotiations Broken Down?

Before a court would impose a remedy on an unwilling party, it would serve the public interest best to have the parties attempted to negotiate a license. CPLs should be a remedy of last resort. To ensure that CPL is a remedy of last resort, a fact finder should ensure the parties cannot agree on terms and that they have tried to negotiate for an extensive time.

#### 7. Does the Public Interest Outweigh the Patentee's Right not to License the Invention?

CPLs should not be granted as a matter of course. Taking a property right from an innovator should only be permitted when the public interest factors far outweigh the need of the patentee to control his invention. Some of the public interest factors that a fact finder may consider are whether the downstream product would likely to have a significant benefit to society, and whether the economic impact to society would be significant. As a matter of course, the presumption should be against the grant of a CPL unless the factors discussed above weight in favor granting a CPL.<sup>103</sup>

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103. See Scherer, *supra* note 97 ("It seems clear from the historical experience with abuse oriented compulsory patent licensing . . . that many more administrative proceedings

### 8. What are the Appropriate Terms of the CPL?

Once a determination is made to issue a CPL, the terms of the CPL should follow those provided by TRIPS.<sup>104</sup> The CPL should be a non-exclusive, non-transferable license which may be revoked if circumstances change. The royalty should be a reasonable royalty that takes into account the fact that the patent at issue is merely one of many in a patent thicket. Factors that would decrease the royalty rate are the number of other required licenses and their royalty rates, the margin on the product sold, and the inventive contribution of the patent to the product.

### CONCLUSION

While different abuses of the patent system challenge the efficacy of the system to promote innovation, different efforts are underway on many fronts to stifle such exploitation. The legislature has put forward four draft bills that would dramatically alter the patent system. The USPTO has proposed different ways in which it would tackle this issue. These efforts are too intrusive and not narrowly tailored enough to address the problem of hold-ups. These drastic and at times draconian changes would likely have an adverse effect on innovation. While patent pools and patent clearinghouses can work, these approaches require that all players voluntarily enter into such engagements. As such, these alone cannot prevent patent system abuses. Permitting compulsory patent licenses in extreme situations, where clearly required by the public interest, may offer a narrowly crafted solution specifically designed to address the problem of hold-ups, trolls and the like, with a minimal impact on innovation.

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would get underway with a rebuttable presumption in favor of compulsory patent licensing than with a presumption in favor of exclusive rights.”).

104. TRIPS, *supra* note 38, at art. 31.