THE HAMILTON PROJECT

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Doug Lichtman

Aligning Patent Presumptions with the Reality of Patent Review: A Proposal for Patent Reform

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Aligning Patent Presumptions with the Reality of Patent Review: A Proposal for Patent Reform

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This discussion paper is a proposal from the author. As emphasized in The Hamilton Project's original strategy paper, the Project is designed in part to provide a forum for leading thinkers across the nation to put forward innovative and potentially important economic policy ideas that share the Project's broad goals of promoting economic growth, broad-based participation in growth, and economic security. Authors are invited to express their own ideas in discussion papers, whether or not the Project's staff or advisory council agree with the specific proposals. This discussion paper is offered in that spirit.

The Brookings Institution
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I. Introduction

The United States Patent and Trademark Office is tasked with the job of reading patent applications and determining which ones qualify for patent protection. It is a Herculean task. One problem is resources. The Patent Office expects more than four hundred thousand new patent applications to be filed in 2007.[1] To accurately evaluate the merits of all of those purported inventions would cost billions. Add to that the administrative costs of both interacting with all of the relevant lawyers and documenting the entire process, and the required budget is quickly beyond reach.

Information is a second significant impediment to Patent Office review. Patent applications are evaluated early in the life of a claimed technology, and thus at the time of patent review there is typically no publicly available information about, for example, how well the technology has been received by experts in the field, or whether consumers have deemed the technology to represent in some way an advance over existing alternatives. Worse, patent examiners cannot solicit these sorts of credible outsider opinions, not only because for many technologies it is unclear at the early stages who the relevant experts and customers might be, but also because patent evaluation is for the most part a confidential conversation between applicant and examiner, designed to keep an applicant's work secret just in case the patent application is ultimately denied.

Given all this, it is hardly a surprise that the Patent Office makes mistakes during the initial process of patent review, granting patents that, on their merits, should never have been issued.[2] The real surprise is that these issuance mistakes are almost impossible to reverse.

The culprit is a legal doctrine known as the *presumption of validity*. Under that doctrine, courts are obligated to defer to the Patent Office's initial determination that an invention qualifies for patent protection. Thus, if the Patent Office issues a patent covering a technology that the purported inventor did not in fact pioneer, courts are almost powerless to overrule that errant determination. The theoretical justification is that patent examiners have expertise when it comes to questions of patent scope, and thus, if patent examiners have decided that a given invention qualifies for protection, judges and juries should not second-guess the experts. But the reality is that Patent Office expertise is brought to bear under such poor conditions that any advantages associated with expertise are fully overwhelmed by the disadvantages associated with insufficient funding and inadequate outsider information. Contrast that to court review, where information is a natural product of the adversarial process, and where financial constraints are reduced because only a tiny fraction of all issued patents end up sufficiently valuable and contentious to warrant litigation. Thus, the presumption of validity backfires. Rather than protecting accurate initial decisions from inefficient later meddling, the presumption precludes what would often be a worthwhile second look. As

1. U.S. Patent and Trademark Office, "Draft Strategic Plan: 2007–2012" (rev. October 31, 2006), http://www.uspto.gov/web/offices/com/strat2007.
2. Calls for patent reform have echoed loudly over the past several years, with industry organizations, patent scholars, and government agencies all publicly announcing that the patent system is broken and that the Patent Office in particular is letting a large number of undeserving patents be issued. Even the mass media has picked up on the theme, frequently poking fun at patent mistakes that are so obvious that a lay audience can appreciate the errors. In this light, see, for example, Federal Trade Commission, "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy" (October 2003), www.ftc.gov/os/2003/10/innovationrpt.pdf; Stephen A. Merrill, Richard C. Levin, and Mark B. Myers, eds., *A Patent System for the 21st Century* (Washington, DC: National Academies Press, 2004); Adam B. Jaffe and Joshua Lerner, *Innovation and Its Discontents* (Princeton, NJ: Princeton University Press, 2004); Editorial, "Patently Ridiculous," *New York Times*, March 22, 2006; Editorial, "U.S. Patent System Has Run Aground," *Boston Herald*, July 24, 2005; Sara Schaefer Munoz, "Patent No. 6,004,596: Peanut Butter and Jelly Sandwich," *Wall Street Journal*, April 5, 2005.

a result, courts today regularly enforce overbroad and undeserved patents, and strategic applicants continue to apply for undeserved patents knowing that there is a good chance the Patent Office will err.

This is a substantial, real-world problem. Under normal circumstances, a patent holder earns a living first by patenting a genuine invention, and then by telling potential customers about the technology. The patent in this instance protects the inventor from having his idea stolen, but the patent is worth nothing unless and until the associated inventor can find customers for his idea. The system thus encourages both the creation of new ideas and their dissemination. Patents that are issued wrongly, however, do not remotely follow this pattern. A patent holder whose patent covers a technology that was already obvious to those skilled in the art has a strong incentive to sit quietly after the patent is issued, knowing full well that other parties will stumble into that same obvious technology in time. When that happens, the patent holder can step forward, threaten litigation, and in the end extract royalties from infringers who neither knew of nor remotely benefited from the patent holder's work. Sadly, a large and growing number of "patent trolls" today play this exact strategy, using patents on obvious inventions quite literally to tax legitimate business activity.

The presumption of validity is today recognized too readily, built into a one-size-fits-all patent system where every application is given the same—and, by necessity, sparse—review.

What to do? One tempting idea is to increase Patent Office funding, in that way making possible more-rigorous up-front screening of patent applications. That would obviously help, but the drawback here is that most of the money would end up wasted. As Mark Lemley pointed out years ago, most patents lie dormant after issuance.[3] They claim technologies that ultimately fail in the marketplace. They protect firms from competitors who, for other reasons, never materialize. They are lottery tickets filed on the speculation that a given industry or invention will take off. Patents in these categories will never be read, never be licensed, and never be asserted in negotiation or litigation. Money spent perfecting these documents, then, is money thrown away. That obviously is unfortunate to the extent that those dollars are tax dollars. It is also unfortunate, however, if those dollars belong to patent applicants, in that every dollar an applicant invests in the patent process is a dollar the applicant cannot spend in other ways promoting and developing the patented invention.

My proposal, therefore, aims not to improve the quality of Patent Office review, but instead to change the presumption of patent validity such that it more accurately reflects the realities of current patent practice. Specifically, I propose three related reforms. First, the strong presumption of patent validity that applies today should be removed, through a voluntary and explicit disclaimer made by the Patent Office, fresh court interpretations, or congressional action. With the presumption removed, patent examiners would still play their customary role in terms of evaluating claim language and ensuring that applicants comply with the patent system's many rules about the form and content of patent disclosures. Patent examiners would also continue to weed out the most egregious applications and to in various ways force inventors to commit up front to details about their claimed accomplishments,

3. See Mark Lemley, "Rational Ignorance at the Patent Office," 95 *Northwestern Law Review* 1495 (2001).

thereby limiting the risk that a patent holder will be able to strategically alter details during litigation. Patent examiners, however, would no longer themselves make a definitive ruling with respect to validity. Examiners, instead, would document their reasons for allowance, and those reasons would certainly be considered by later decision makers, but there would be only a trivial presumption that the examiner's validity analysis was, in fact, correct. Courts would be free to deem that presumption fully rebutted in cases where the evidence, on balance, ultimately suggests that patent protection is inappropriate.

Second, and in essence to fill the hole created by the first reform, Congress should create a new opportunity for patent applicants to come to the Patent Office, fund a vigorous review process, and in return earn a significant presumption in favor of patent validity. In order to provide funding sufficient to actually run an intense evaluation, the fees associated with this supplemental review would have to be significantly higher than current fees.[4] That is not as bad as it might sound, however, in that higher fees would discourage patent applicants from too readily invoking the process. The procedure would be entirely optional. Applicants who forgo it would still be able to defend their patents in court should that need arise. Applicants who opted for this approach, however, would enjoy surer protection. Courts would be allowed to consider evidence that was not considered by the examiner at the time of this intense review, but courts would need to overcome a significant threshold before being allowed to second-guess the Patent Office's evaluation of evidence that was in fact considered.

Finally, in addition to this proposed new form of Patent Office review, there are other procedures that result in reliable patent evaluation; either the courts or Congress should make available a presumption of validity in those settings, as well. For instance, when a court or the United States International Trade Commission (ITC) evaluates a patent in the context of litigation, that evaluation should be accorded deference in any later litigation involving the same patent. Similarly, when under current law a challenger requests that the Patent Office reexamine an issued patent, the results of that intense look should be given presumptive weight in later judicial proceedings. If Congress adopts one of the many proposals that would create a postgrant opposition process, there again decisions made as part of that more intense review should be accorded deference by later decision makers.[5] Deference in each of these instances should be calibrated to match the strengths and weaknesses of the relevant first-round decision. For instance, the more adversarial the process, the greater the appropriate deference, because adversarial interactions are particularly good at bringing forward evidence and arguments. Similarly, the more time that passes between issuance and evaluation, the greater the deference, this time because delay means that there was more opportunity for reliable outsider evaluations to come to light.

The result is a counterproductive system where patents are wrongly issued and then fiercely enforced.

4. As is already the case today with respect to most other Patent Office procedures, reduced fees would be available to smaller entities.
5. Scholars have been debating the details of a possible postgrant opposition proceeding for years, and legislative proposals have been put forward several times, thus far to no avail. For a sense of the academic debate as well as links to some of the legislative proposals, see Mark D. Janis, "Rethinking Reexamination: Toward a Viable Administrative Revocation System for U.S. Patent Law," 11 *Harvard Journal of Law and Technology* 1 (1997); Robert P. Merges, "As Many as Six Impossible Patents before Breakfast: Property Rights for Business Concepts and Patent System Reform," 14 *Berkeley Technology Law Journal* 577 (1999); Craig A. Nard, "Certainty, Fence Building, and the Useful Arts," 74 *Indiana Law Journal* 759 (1999); J. H. Reichman, "From Free Riders to Fair Followers: Global Competition under the TRIPS Agreement," 29 *NYU Journal of International Law & Policy* 11 (1997); John R. Thomas, "Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties," 2001 *University of Illinois Law Review* 305 (2001).

In summary, the presumption of validity is today recognized too readily, built into a one-size-fits-all patent system where every application is given the same—and, by necessity, sparse—review. The result is a counterproductive system where patents are wrongly issued and then are fiercely enforced. My proposal would recalibrate the presumption of validity so as to better account for the realities of patent review. Ideally, the Patent Office itself would take the first and most important step: voluntarily ratcheting down the presumption that, by default, is accorded every patent upon issuance. Then Congress and the courts would combine to implement the second and third prongs, with Congress creating new procedures through which presumptions could be earned, and the courts in turn recognizing tailored presumptions in any context where there is reason to believe that a prior decision maker made a reliable decision. The net effect would be to reduce the incentive to file undeserved applications in the first place, and, at the same time, to reduce the disruption caused by any undeserved applications that might accidentally slip through.

II. The Presumption Today

Patent law's presumption of validity derives from the language of the U.S. Patent Act itself. Specifically, in §282, the Act provides that "the burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity."[6] This language on its face sets an unobjectionable baseline: After issuance, the default outcome in litigation is a finding of validity, and a challenger must amass evidence before a patent can be declared invalid. The modern presumption of validity, however, goes troublingly further. As courts apply the doctrine today, the only way to render invalid an issued patent is to present "clear and convincing" evidence that the patent was improvidently granted. This is an extremely high evidentiary bar, and one that, in practice, proves enormously difficult for accused infringers to overcome.[7]

The court opinions that establish this rule do not much articulate the policy reasons that might justify its existence.[8] However, two such policies are readily apparent. First, the presumption of validity forces courts to defer to the expertise of the Patent Office, thereby avoiding redundant and possibly inferior second looks by the courts. Presumptions are used throughout the law for precisely this reason. If some initial decision maker has made a decision about an issue, and if there is reason to believe that the decision is probably right, a presumption works to avoid wasteful reconsideration. This might in the aggregate reduce accuracy; but the point is that the first decision is sufficiently good that the odds of improving it are small and thus the costs of a second look are unwarranted.[9]

Second, to bring a patented technology to market, patent holders often must invest substantial resources in development and commercialization. The presumption of validity reduces the risk associated with those investments. A patent holder whose patent benefits from a presumption knows that, if his development and commercialization efforts turn out successful, he likely will have a valid patent that will empower him to exploit that success. The presumption thus encourages the patent holder to spend the necessary resources. Patent holders in the pharmaceutical industry, in particular, emphasize this benefit. In that industry, enormous expenditures are required after patent issuance, including expenditures related to testing and those related to regulatory approval.

For my part, I do not reject either of these rationales. The presumption of validity surely does at times reduce wasteful duplication of investigative efforts, and the presumption of validity also surely does encourage, under certain circumstances, patent holders to invest in development and commercialization. As discussed further below, however, the extent of these effects seems small. Patent Office review is so terse and imperfect that a later, second look is unlikely to be significantly redundant, and even less likely to increase the error rate. And, while uncertainty regarding patent rights might discourage some types of investment, it would seem odd to focus too heavily on this effect, among other reasons because patent uncertainty is only one of a million uncertainties facing a firm that is actually endeavoring to bring a pat-

6. U.S. Code, Title 35, Patents, §282.
7. The statutory language was not always read this way. Indeed, prior to the formation of the Federal Circuit, courts varied considerably in terms of the degree of deference they would show. The Federal Circuit, however, has consistently applied the high bar, and it continues to do so today. See, for example, *Ultra-Tex Surfaces, Inc. v. Hill Bros. Chem. Co.*, 204 F. 3d 1360, 1367 (Fed. Cir. 2000).
8. For a more detailed discussion of the early opinions, see Lee Hollaar and John Knight, "Unclear and Unconvincing: How a Misunderstanding Led to the Heightened Evidentiary Requirement in Patent Litigation" (unpublished manuscript, Salt Lake City: University of Utah, 2006), http://digital-law-online.info/papers/jk/unclear.pdf.
9. The presumption of validity reduces court costs by reducing the incentive to litigate. An accused infringer has little reason to litigate if the presumption all but guarantees a win to the patent holder. In cases where litigation does occur, however, the presumption does not likely reduce costs; patent litigants today spend a fortune fighting over whether the presumption has been rebutted in each specific case.

ented invention to market. Thus, these rationales do not seem sufficient to justify the presumption as it exists today.

Deference to the Patent Office

Start with the first of these policy defenses: that deference to the Patent Office avoids redundant and likely inferior second looks. This argument is strong only if it is plausible to think that the Patent Office can run, at the time of patent application, a substantial and relatively reliable evaluative process. For reasons beyond the Patent Office's control, that seems unlikely.

> Current Patent Office review is so terse and imperfect that a later, second look is unlikely to be significantly redundant, and even less likely to increase the error rate.

I have already mentioned one problem: the budget. Several hundred thousand patent applications are filed every year,[10] and those applications cover the full range of technologies—from breakthroughs that involve the human genome to innovative new designs for consumer electronics. Patent examiners who are assigned to evaluate those applications are chosen, in part, because they have background roughly related to the technology at hand, but examiners are rarely experts on the precise details of the relevant invention. Thus, to evaluate an application, an examiner not only has to read the typically voluminous documentation submitted by the applicant, but also must use computerized databases and other available sources to learn about the state of the art. The examiner obviously also has to interact with the applicant's lawyers and document any decisions ultimately made. Strikingly, examiners are asked to do all of this in what turns out to be an average of between sixteen and seventeen hours;[11] and, at that, those hours are spread over what is often a three- to four-year period.[12] Given these numbers, it is hardly a surprise that bad patents routinely slip through.

To do more, however, would be enormously costly. Suppose, for example, that the Patent Office were to hire actual industry experts to participate in patent review, for example hiring an expert on digital camera lens technology when a patent on such a lens was filed. Assume that these experts could evaluate the invention, identify relevant prior art, and communicate their conclusions to the patent examiner in forty hours total, and that these experts would be willing to do all that while being paid a very modest expert wage of $200 per hour. Ignoring overhead and the salary owed to the patent examiners themselves, the aggregate costs to in this way evaluate one year's worth of patent applications would top out at well over $3 billion.

Now, admittedly, if patents were reviewed this aggressively, it is likely that fewer patent applications would be filed. It takes time and money to prepare an application, and applicants would be less likely to do that if the likelihood of patent issuance were low. Applicants would similarly be dissuaded from applying if application fees were raised to cover fully the actual costs of rigorous patent review. Nevertheless, even a non-trivial reduction in the application

10. In fiscal 2005, for example, the Patent Office reported receiving the following: 384,228 conventional patent applications; 46,926 applications that were filed pursuant to special rules that apply to foreign filings; and 111,753 provisional applications that are, in essence, place holders that can later mature into conventional applications. See U.S. Patent and Trademark Office, "Performance and Accountability Report for Fiscal Year 2005" (November 2, 2006), 18.
11. See John R. Thomas, "Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties," 2001 *University of Illinois Law Review* 305, 310 (2001).
12. See Kristen Osenga, "Entrance Ramps, Tools, and Express Lanes: Proposals for Decreasing Traffic Congestion in the Patent Office," 33 *Florida State University Law Review* 119, 130 (2005).

rate would leave the basic numbers problem intact. Patent evaluation is scientific review at an extraordinary scale, and it will necessarily be flawed unless and until applicants, the government, or both, are willing to pay a hefty price.[13]

Another limitation on the extent and quality of Patent Office review is the fact that early patent review is not—and, as a practical matter, cannot be—adversarial. Adversarial processes tend to produce good evaluative information. The court system, for instance, is thought to work in large part because in every case there are opposing parties arguing for different outcomes, and thus all the judge and jury need do is evaluate the alternatives rather than identify arguments and weaknesses themselves. Patent review does not benefit from this sort of competitive dynamic, however. Instead, the only parties that participate in the initial process of patent review are the applicant, the applicant's attorneys, and the examiner. This unavoidably yields an information-poor process. Bluntly, no matter how good the examiner, no examiner will ever know as much or be as motivated as a true market rival.

Adversaries are not welcome in the process today, in part because the patent system tries to protect applicants from having their ideas leak out prior to patenting. This is important to applicants whose applications are ultimately rejected, because after rejection these applicants will want to rely on secrecy to protect their unpatented work. Even if society were to abandon the goal of protecting unsuccessful applicants, however, it would still be difficult to implement a genuinely adversarial application process. After all, it would be an enormous burden on industry if every firm had to monitor filings at the Patent Office and then participate in any relevant application process. Worse, participation would be a double-edged sword. A participating firm would be identifying itself as a target for later litigation in the event the patent is issued, and such a firm would at the same time be acknowledging awareness of the patent and hence exposing itself to later charges of willful and/or contributory infringement. Moreover, adversarial participation would be implausible in instances where, at the time of patent evaluation, the relevant market was still in its infancy. In such cases, firms that might ultimately be key competitors would not even exist at the time of patent review, let alone realize the need to fight the application or have the resources to do so. Finally, were adversarial interactions possible, they would raise the costs of patent review, and even that is unattractive given that both the government and the dueling parties likely can do better things with their cash than invest in grueling combat every time a patent application is filed.

To the extent that the presumption of validity is justified on an intuition about the quality or extent of initial patent review, that justification falls flat. Given current constraints, the Patent Office simply cannot engage in particularly rigorous or accurate initial patent review.

The absence of third-party information is yet another constraint that calls into doubt the quality of early patent review. One of the central questions raised in patent review is the question of whether the purported invention was obvious to those skilled in

13. As I point out in the Introduction, I do not myself advocate paying this price, for the simple reason that most patents are never read, never litigated, and never licensed. To invest substantial resources perfecting these documents would be pure waste.

the art at the time it was supposedly invented. Obviousness is difficult to judge on paper.[14] Over time, however, objective evidence of obviousness comes to light. Was the invention a significant market success? Did competitors copy the technology after it was unveiled? Did other inventors independently achieve the same accomplishment at approximately the same time? Was the invention greeted with praise or skepticism by industry experts? This and comparable information is not available at the time a patent application is first filed, and hence it cannot contribute to the accuracy of early patent review. By the time of a second look, however, secondary evidence along these lines can be introduced. Indeed, courts today are obligated to consider this sort of information, albeit subject to the presumption of validity.[15]

Most patents lie dormant after issuance; money spent perfecting these documents is money thrown away.

In short, to the extent that the presumption of validity is justified on an intuition about the quality or extent of initial patent review, that justification falls flat. The Patent Office simply cannot engage in particularly rigorous or accurate initial patent review, and thus, although the Patent Office process is certainly helpful and revealing, it does not on any measure warrant the heavy deference that it is accorded today.

Patent Certainty

The second policy rationale in favor of the presumption of validity is that the presumption reduces uncertainty and thereby increases a patent holder's incentive to invest in the development and commercialization of his patented technology. I am sympathetic to this argument, but I doubt that it alone can justify the presumption.

For starters, note how odd it would be to emphasize stability in the context of the presumption given how little weight stability is accorded almost everywhere else in patent practice. Consider, for example, the rules that govern when a court determination regarding patent validity binds later litigants. A patent holder who successfully defends patent validity in the context of a first infringement suit must start afresh when he sues a second infringer. Again, the patent holder must rebuff arguments that the patent was improvidently granted. Again, the patent holder must establish his desired claim constructions. A patent holder whose patent is found invalid in some first case, by contrast, is barred from ever again enforcing that patent. If there is some randomness in litigation, the result here is to shift significant uncertainty onto patent holders. A lucky draw has implications only for the specific litigation at hand. An unlucky one has implications for every future interaction.

The interpretive rules under which patent claims are analyzed similarly undermine patent certainty, not because of their substance but because they are

14. The Supreme Court is currently poised to reconsider the legal test by which obviousness is judged. Petitioners in the case argue that the standard that exists today makes it too easy for patent holders to defeat an allegation that the patented invention was obvious as the time it was invented. Respondents and their supporters reply that the standard is appropriate, typically because in their view other standards would be unworkable or would lead to too many invalidations of what are actually valid patents. See *KSR Int'l Co. v. Teleflex, Inc.*, 126 S. Ct. 2965 (2006). As is obvious from my work here, my own perspective is that this is an important question, but that it is secondary to issues related to the presumption. After all, whatever the test for obviousness, under current law it will be applied through the lens of a presumption in favor of validity, and that will advantage the patent holder tremendously no matter what the details of the obviousness test.
15. Objective information such as this is important for another reason: it combats the problem of hindsight bias. Put differently, there is always in the patent system the concern that a decision maker will see the purported invention and immediately think that it was obvious, even if no one had thought of it before. This problem is particularly troublesome in litigation because, by the time litigation begins, the patented invention will typically have been out in the world for many years and thus seem familiar. Objective evidence helps decision makers combat this natural but troubling tendency.

constantly in flux. One minute the Patent Office is approving claim language where some new apparatus is described in part by articulating how the apparatus should be used; the next, the Federal Circuit retroactively declares all such claims to be so unclear as to be invalid.[16] Similarly, one minute the practice of altering claim language during patent prosecution is seen as a natural part of the give-and-take between applicant and examiner; the next, the Federal Circuit and the Supreme Court combine to again retroactively change the rules, this time announcing that almost every such language alteration will be construed as a concession that limits patent scope.[17]

And the above is just the tip of the iceberg. The Federal Circuit is notorious for reversing lower court claim construction decisions.[18] The Supreme Court recently threw into disarray the previously established rule that patent holders were entitled to injunctive relief if they could prove infringement of a valid patent.[19] A patent can be held invalid because someone uncovers "secret" prior art—art that was not public at the time of invention, but that is nevertheless admissible in court under one of several special exceptions.[20] I provide these examples not to question whether stability has value (of course it does), but instead to point out how disingenuous it would be to put stability on a high pedestal in just this one context. The lesson from patent law more generally seems to be that stability is desirable, but that the patent system is willing to pay only a remarkably modest price to achieve it.

One reason that patent law is so willing to sacrifice stability is that, for firms actually trying to bring a product to market, legal uncertainty is only one among many types of uncertainty in play. Pharmaceutical companies, for instance, admittedly worry about the strength of their patent portfolios. But a little less certainty there is unlikely to radically alter firm behavior given that success in the pharmaceutical industry critically depends on other, unavoidable uncertainties such as the uncertainty associated with FDA review and the very real risk that, because of some unexpected side effect, a blockbuster drug will suddenly lose all of its value and even become a source of devastating legal liability. Similarly, small firms and start-ups face enormous risks above and beyond the risks associated with patent validity. Indeed, every venture capitalist in the country can list dozens of innovative start-ups that today hold presumptively valid patents but have yet to generate a penny of revenue. Again, patent uncertainty is important, but its importance ought not be overstated.

Yet another reason to question whether a desire for certainty is enough to justify the presumption of patent validity is the simple fact that the presumption disproportionately helps patents for which validity would otherwise be in doubt. A patent that is clearly valid does not much benefit from a presumption of validity. Even without a presumption, the relevant patent holder can be confident that the patent will survive court challenge. A patent holder relying on a suspect patent, by contrast, gains significant ground by virtue of a strong presumption. Thus, to the extent a presumption encourages investment, it seems to encourage investment in the wrong inventions. The patent system is designed to encourage investment in technologies that are genuinely new, not technologies that are likely redundant to things society knew before.

Again, I could go on. For instance, there is an academic literature to suggest that the last marginal increase in patent certainty comes at an enormously high cost to society, in essence because a confident patent holder can be particularly aggressive when it comes to negotiating licensing deals or settling

16. See *IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F. 3d 1377 (Fed. Cir. 2005).
17. See *Festo Corp v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F. 3d 558 (Fed. Cir. 2000), vacated and remanded by 535 U.S. 722 (2002).
18. See Kimberly A. Moore, "Are District Court Judges Equipped to Resolve Patent Cases?," 15 *Harvard Journal of Law & Technology* 1 (2001).
19. See *eBay Inc. v. MercExchange, LLC*, 126 S. Ct. 1837 (2006).
20. See, for example, 35 U.S.C. §§102(e), 102(g).

litigation.[21] There is also a literature to suggest that firms have other means by which to increase certainty, such as acquiring large numbers of overlapping patents and in that way creating a somewhat-diversified patent portfolio.[22] Thus, a justification that explains the presumption of validity on the grounds that it beneficially increases certainty is precarious, at best. Certainty is important, but certainty is not a good reason to endorse the current presumption, especially given the obvious costs the presumption today imposes.

21. See Ian Ayres and Paul Klemperer, "Limiting Patentees' Market Power without Reducing Innovation Incentives: The Perverse Benefits of Uncertainty and Non-Injunctive Remedies," 97 *Michigan Law Review* 985 (1999).
22. Gideon Parchomovsky and R. Polk Wagner, "Patent Portfolios," 154 *University of Pennsylvania Law Review* 1 (2005).

III. Layered Presumptions

To this point, I have argued that Patent Office review as it currently stands is not sufficiently intense or accurate to warrant deference, and that, while deference does reduce uncertainty, the case for reducing uncertainty in this manner is weak. Moreover, as I pointed out in the Introduction, the presumption of validity is affirmatively unattractive to the extent that it locks in mistakes that would otherwise be corrected by presumption-free litigation, and further unattractive to the extent that it encourages applicants to submit questionable applications in the hope that those applications might slip through and then benefit from the presumption.

With that background in place, let me now again and more fully articulate my three proposed reforms.

First, the Patent Office should disclaim the strong presumption currently recognized in favor of its work. The presumption is for the most part a judicially created rule of deference under which courts acknowledge what they understand to be the Patent Office's desire to have its earlier evaluation respected. The Patent Office should speak up and disavow that desire. Specifically, the Patent Office should instruct patent examiners to do exactly what they do today but, in addition, upon patent issuance, to include boilerplate language welcoming the courts to revisit the question of patent validity in the event an issued patent ends up in litigation. The Patent Office obviously cannot, and in any event should not, reject the statutory baseline; that is, challengers should still have the burden of bringing forward evidence that the patent was wrongly issued. However, the Patent Office should politely decline the heavier presumption that courts today recognize as a matter of course. To the extent that the Patent Office has valuable arguments and insights to contribute, it can do that by influencing how the issued patent reads and what documents are in the file. The Patent Office need not wield its influence through the use of a heavy presumption.

It is admittedly hard to know whether a change of this sort would be enough to bind the courts. Patent examiners currently sometimes write notes to the file wherein they explain why they let a particular patent be issued, and yet patent courts today knowingly—and in my view indefensibly—basically ignore those communications.[23] It is possible the same would hold true for a Patent Office policy such as the one I advocate. That said, it would seem almost untenable for the courts to strongly "defer" to an agency decision in a case where the decision itself explicitly requests a lighter touch. Besides, elsewhere in the patent system there is already at least one setting (reexamination proceedings) where the presumption of validity is ignored and a patent is reconsidered without any deference to the first determination. That example might make a comparable approach here an easier sell. But all this is admittedly contentious ground, and my proposal might ultimately need to be implemented either via statutory amendment,[24] or

The Patent Office should disclaim the strong presumption currently recognized in favor of its work.

23. See, for example, *Salazar v. Procter & Gamble Co.*, 414 F. 3d 1342 (Fed. Cir. 2005).
24. Section 282 of the Patent Act currently states that, "the burden of establishing invalidity of a patent or any claim thereof shall rest on the

via judicial reinterpretation of the existing statute and its associated case law.[25]

If the current strong presumption of validity is in any of these ways successfully removed, the Patent Office would still play a central role in the patent process. Examiners would still weed out obviously flawed requests, they would continue to wield significant influence over claim language, and they would still generate a paper trail that might later limit an applicant's ability to make self-serving arguments about what was claimed, what was invented, and when. The only difference is that, with respect to patent validity, issued patents would not benefit from the heavy thumb courts today put on the scale in favor of the Patent Office's original validity decision. As I have argued here, that original decision will inevitably be inaccurate, not due to any failing on the part of patent examiners, but instead due to the extraordinary budgetary and informational constraints under which initial patent review is by necessity accomplished.

Congress should create a new, much more rigorous patent review process that would be run by patent examiners and that would be entirely voluntary.

Second, Congress should create a new, much more rigorous patent review process that would be run by patent examiners and that would be entirely voluntary. This supplemental review would be available only during the first year after patent issuance—more on that below—and the fees associated with it would be sufficiently high that examiners would have the funding necessary not only to spend at least one full month researching each purported invention, but also to hire relevant outside experts to assist in patent evaluation. As is the custom already today with respect to most Patent Office fees, fees for this procedure would be set such that individual inventors and smaller entities would be given a break on price. The fee would remain intentionally high, however, because a high fee will discourage applicants from invoking the procedure lightly, and that will drive most of the work of patent review to other—and hopefully even more reliable—processes. Put differently, the high fee here would be a selection mechanism that would force applicants to credibly distinguish patents that for one reason or another ought to be evaluated early from those that can instead wait for later (and ideally adversarial) procedures such as patent litigation, inter partes reexamination, and postgrant opposition.

Patents that survive the supplemental review process would earn and therefore be accorded a presumption of validity. Specifically, courts would not be allowed to second-guess any material that the patent examiner actually considered during this more intense review, and even new material would be considered only if it could first be shown not to be redundant to materials already reviewed. The reason to structure the presumption this way is that this structure creates an incentive for applicants to look for and show the examiner relevant prior art. Only art seen by the examiner would benefit from the presumption, and so applicants would want the examiner to see as much prior art as possible. The only constraint from the applicant's perspective would be the obvious one: the applicant would not want to share so much prior art that the examiner would think the purported invention is not actually innovative.

party asserting such invalidity." Congress could add a second sentence here that would clarify the extent of that burden, for example, "That burden is met whenever a party brings forward new evidence sufficient to show that, more likely than not, the patent would not have been granted had the patent examiner been aware of the new evidence at the time of initial patent review."

25. Two colleagues have begun to lay the groundwork for this approach. See Stuart Minor Benjamin and Arti K. Rai, "Who's Afraid of the APA? What the Patent System Can Learn from Administrative Law," 95 *Georgetown Law Review* (forthcoming 2006).

As I mention above, supplemental review would be available for only one year after issuance. Similar to the high fee discussed above, this would serve to channel most patent review to other, and likely more reliable, procedures. That is, this window is intentionally tight, designed to make the process available but only in those rare instances where a patent applicant knows early on that certainty would for some reason be enormously helpful. Patent holders who do not step forward within one year would not be eligible to use this process, but they would be able to turn to other procedures such as patent litigation, inter partes reexamination at the Patent Office, or postgrant opposition. Most patents would thus end up being evaluated in one of these other ways, and, again, by design. These other procedures are adversarial and hence likely to be more accurate than even a well-funded process that involves only the applicant, his lawyers, and the patent examiner.

As is the custom today with most existing Patent Office fees, fees for the new procedure would be set such that individual inventors and smaller entities would be given a break on price.

Third, and relatedly, there are already today a number of moments in the existing patent process during which a decision maker takes a hard look at the merits of an issued patent. If patents are accorded only a featherweight presumption as a matter of course, and if very few patents earn a greater presumption by participating in supplemental review, then additional weight could be recognized in support of patents that survive these other types of evaluation. For example, some issued patents are returned to the Patent Office after issuance and are reevaluated through an adversarial process know as inter partes reexamination. This is an evaluation to which deference is appropriate. It involves the applicant and a rival; it typically takes place several years after the application was first filed; and the only patents subject to this procedure are patents specifically targeted by a complainant and accepted for review by the Patent Office. Similarly, decisions made in litigation or in the context of a hearing at the ITC should be accorded some degree of deference. Under current law, a favorable decision in either of these forums does not increase the presumption of validity; but that is because a strong presumption of validity is already in place even prior to the case. With that prior presumption gone, it would be appropriate to introduce a new presumption that would require courts to defer to any reliable decision made as part of these earlier processes.[26]

Proposals are afoot to add still additional opportunities for merit-based patent reevaluation. With respect to decisions made in these contexts, too, it would be appropriate to introduce new deferential presumptions. For example, many commentators have called for the introduction of a postgrant opposition proceeding that would allow potential infringers to bring a patent back to the Patent Office for a second look.[27] If those proposals are adopted, postgrant opposition would certainly be the type of rigorous review that would warrant an eventual presumption in its favor. The touchstones—met

26. My overall theme here is that the presumption of validity should be tailored to the reality of patent review, and that obviously applies to decisions made in court and at the ITC just as much as it applies to decisions made at the Patent Office. Thus, presumptions would not be appropriate to the extent a later court believes that the earlier litigation was a sham, or to the extent that important information was for some reason not available during the prior evaluative process.

27. I link to the literature on postgrant opposition in footnote 5. I should point out that many of the proposals embraced by previous writers seem to me flawed. For instance, as the procedure is described in some of the literature, a strategic infringer could abuse the process by triggering postgrant opposition merely as a tactic to drain a small patent holder's resources. Were I designing postgrant opposition, I would design the procedure such that it would be triggered only at the start of patent litigation. Specifically, a court would receive a

here and in my previous examples—are, again, some combination of an adversarial inquiry, an inquiry that applies to a small enough number of patents that it can be sufficiently well funded, and an inquiry that occurs late enough in a patent's life that some external information about the technology is available.

patent complaint, confirm that the complainant has standing to actually bring the case, and then immediately send the case to the Patent Office for expert review. Inside the Patent Office, there would be no deference to the Patent Office's own initial decision to issue. At the end of postgrant opposition, however, a presumption would be put in place in favor of any factual findings specifically made as part of this adversarial process.

IV. Objections

I expect three primary objections to my proposal: it might harm cash-strapped inventors; it might make litigation more costly; and it might shift the burden of determining patent validity to courts, which lack the necessary expertise.

Layered presumptions favor patent applicants who have adequate resources to pay for rigorous review from the get-go, but they disfavor individual inventors and similarly cash-strapped entities.

The second prong of my proposal advocates the creation of a new, intense Patent Office procedure through which an applicant could ultimately earn a presumption of validity. This procedure would be expensive by design, both because the Patent Office would need money to run that intense review and because a high fee would discourage applicants from lightly requesting this procedure. A natural concern is that individual inventors and small entities will not be able to afford the fee, and, as a result, these parties will in essence be relegated to a second-class patent system where patents must be defended from scratch in court. In response, I have already suggested that the fee schedule ought to offer a price break for smaller entities, in much the same way that the Patent Office currently offers a small-entity discount on the fees associated with filing a patent application. Still, this is a serious objection that warrants further discussion.

The truth of the matter is that almost any change designed to improve the quality of patent review will hurt cash-constrained applicants, because almost any change will end up costing applicants money. If patent examiners commit to spending twice as much time on each application during the normal review process, for example, patent fees will go up across the board. If patent law changes to require that applicants conduct their own prior art searches prior to applying for patent protection, that extra cost will again sting. If postgrant opposition procedures are created by statute, patent holders who are dragged into those proceedings will need to hire lawyers to defend their patents, again resulting in new costs. Against this backdrop, my proposal for reform, on the margin, is more attractive, not simply because I can dampen any harm by reducing the fee for smaller entities, but, more importantly, because under my approach a cash-starved firm can choose not to participate in the new procedure. Yes, that would make any ultimate dispute over patent validity more precarious, but validity disputes are rare in the patent system. Remember, most patents are never read, never licensed, and never litigated—and, besides, even a firm that expects litigation might prefer to put off investing in that litigation and instead focus in its early days on marketing, commercialization, and other investments that are likely more important determinants of long-run success.

With no presumption of patent validity to constrain behavior, litigation will devolve into a wastefully exuberant search for obscure prior art.

Accused infringers spend exorbitant amounts of money searching for prior art that might disprove the originality of the asserted patent. The necessary prior art might be a doctoral thesis, written in Greek, archived in a government library, and completely unnoticed by the literature or industry. Nevertheless, if the liability associated with a finding of infringement is large enough, an accused infringer will gamely join the hunt. The trade-off for the infringer, after all, is a comparison between the costs of the search and the costs associated with losing the case. That balance will often fund a significant, indeed an excessive, search budget.

Any legal change that weakens the presumption of patent validity might amplify this incentive to search. The reason is that, the lesser the presump-

tion, the greater the likelihood that the infringer will be able to find a piece of prior art sufficient to invalidate the patent. Whether that is a social benefit or a social harm depends on the circumstances. Invalidating patents that should not have been granted is clearly worthwhile. The relevant patent is stopped from further disrupting the industry, and, anticipating this, future patent applicants are dissuaded from filing overbroad patent applications in the first place. However, there is a potential mismatch between the category of patents against which prior art exists, and the category of patents that should not have been issued. Specifically, a patent should not be deemed invalid just because some ridiculously obscure piece of prior art can be found during litigation. If the prior art is that obscure, the patent holder should be treated like any other inventor, because, but for the patent holder, the invention would not have been available to society anyway.

The issue of obscure prior art is an important one in my view, but the presumption of validity is too blunt an instrument to address it. Prior art rules should ensure, and to some extent do ensure, that too obscure a reference is treated as if it never existed. The presumption of validity, by contrast, weighs against all prior art references, even prior art that was known to experts in the field but for some reason failed to catch the attention of the patent examiner. Thus, the presumption is a poor solution to the problem of obscure art, and courts should instead continue to develop practical rules about how public a prior art reference must be before it will be deemed admissible as evidence against patent validity.

Despite any limitations associated with Patent Office review, patent evaluation accomplished by trained patent examiners is still significantly more likely to be accurate than patent evaluation accomplished by generalist judges and lay juries.

Patent litigation is, without doubt, a deeply flawed process. District court judges are poorly equipped to read patent documents and construe technical patent claims. Lay juries have no skill when it comes to evaluating competing testimony about the originality of a technical accomplishment. Even the specialized judges of the Federal Circuit are widely criticized for their inability to resolve intracircuit patent law splits. All this leaves me with little confidence that court decisions in the patent arena map well to the public policy motivations that justify the existence of a patent system in the first place.

My proposal here, however, is not designed to shift decision-making power away from patent examiners and toward judges or juries. Quite the opposite, the second prong of my proposal explicitly advocates a new pay-more/get-more examination process that would be based in the Patent Office, and the third prong endorses Patent Office procedures such as inter partes reexamination and the proposed postgrant opposition. I mean here to resist the Patent Office only in the context of initial patent review. As I have emphasized, that procedure is deeply constrained by budgetary and informational limitations, and thus patent examiner expertise is not in this setting meaningfully brought to bear.

Nevertheless, my proposal will admittedly shift some decision-making authority to the courts, because at least some patent holders will skip all of the Patent Office's second-look measures and thus will end up defending their patents in litigation. I worry about whether the courts will be able to handle those cases reliably, and I support wholeheartedly experiments and conversations about ways to improve the quality of litigation outcomes. To the extent that the choice is between initial patent review at the Patent Office and later patent review in court, however, courts have the clear advantage. Patent litigation is adversarial, it takes place later in time, and it applies to a small enough fraction of patents that significant resources can be devoted to hiring experts, searching for prior art, and in other ways rigorously analyzing the merits of the case. The patent system can and should build on these advantages. The presumption of validity all but ignores them.

V. Effects on Current Stakeholders

My proposal will have implications for a large number of stakeholders who are in one way or another involved with the patent system. In this section, I consider which stakeholders might be helped by these reforms and which might be disadvantaged.

The primary beneficiaries of patent reform are not patent holders. Instead, the primary beneficiaries are the countless firms who, in the course of putting out some product or service, might inadvertently infringe a patent. These firms need the patent system to exercise due care to ensure that only genuine inventions are awarded patent protection, because these firms are the ones who will end up paying royalties or in other ways having their businesses disrupted in the event that some obvious idea is nevertheless allowed to fall within a patent holder's exclusive rights. For patent reform, this dynamic poses a problem. Reform efforts work best when the beneficiaries are a concentrated group that can be rallied to the cause. Here, the beneficiaries constitute an enormously diverse group, with members ranging from Internet start-ups to large manufacturing entities and financial institutions. Reforms of the sort I advocate here will as a result be difficult to accomplish.

One important group that might be disadvantaged by these reforms is the group of firms that exploit today's rules by suing on patents that never should have been issued in the first place. As I mentioned in the Introduction, a cottage industry has emerged to do exactly this, with certain firms widely accused of using the presumption of validity to turn dud patents into disruptive moneymakers. These patent trolls do not in any way contribute to innovation. They do not directly bring new ideas into public use, for instance by producing products, nor do they bring new ideas into public use through indirect means, for instance by introducing potential licensees to the patented technology. Instead, and against everything the patent system was supposed to be about, these firms wait for their victims to independently develop the obvious "inventions" their patents cover, and then sue or threaten to sue in order to extract their unearned reward. Patent reform will be difficult because these firms have substantial resources and they will use those resources to defend the status quo. But patent reform is at the same time essential because of the disruptions for which these firms are increasingly responsible.

At least two additional categories of patent holders also and understandably will likely oppose the reforms I suggest here: patent holders in the pharmaceutical industry, and individual inventors. Patent holders in the pharmaceutical industry are cautious about any reform that might weaken patent strength, primarily because of the slippery slope concern that someday their patents might be targeted by well-meaning lawmakers who mistakenly think that weaker patents would mean lower drug prices and better drug availability. Individual inventors are similarly cautious when it comes to patent reform. The deck is already stacked so heavily against individual inventors in terms of their ability to detect infringement and to litigate high-stakes cases to completion that any reduction in their ability to enforce their rights is understandably viewed with enormous skepticism.

Other patent holders will admittedly be nervous to see the presumption of patent validity weakened, but they ought to support these reforms nonetheless. The reason is that the underbrush of undeserving patents undermines the value of well-earned patent rights. This plays out in a number of ways. For instance, many patent holders produce products or offer services consistent with their patent grants. These firms should favor patent reform for the same reasons that firms in general should: bad patents are a tax on legitimate business activity, including the legitimate use of patents that were fairly

earned. Other patent holders, meanwhile, do not produce products or offer services directly, but instead license their patents to other firms that in turn do those things. These patent holders should support reform for two reasons. First, their businesses are built on licensing revenue, and there will be more licensing revenue for them if their licensees did not have to pay for dud patents. Second, these firms in particular rely heavily on the existence of a strong patent system; the more the patent system is abused, the more likely it is that Congress and the courts will weaken patent rights in response. The recent Supreme Court case of eBay v. MercExchange is in this regard a clarion call.[28] The Court in that case significantly clouded what had been the standard remedy for patent infringement, and did so largely because particular patent holders have in recent years very publicly abused the stronger rights that had previously been the norm. Legitimate patent holders need to drive their less honorable counterparts out of the tent, or the weakening of patent rights might become a dangerous trend.

28. See *eBay Inc. v. MercExchange, LLC*, 126 S. Ct. 1837 (2006).

VI. Conclusion

Evaluating patent applications is a difficult task, and it is not a criticism of the Patent Office to point out that the current process results in the issuance of an uncomfortably large number of undeserving applications. Those errors can be corrected, but only if some second evaluative body is given an opportunity to revisit the initial decision to issue. The presumption of validity today closes that door. Thus, the patent system wastes the many advantages that a second decision maker might have: the opportunity for adversarial review, sufficient funding thanks to the smaller number of patents in contention, and reliable outsider information about (for example) how well the product was received and whether other inventors achieved roughly the same breakthrough at roughly the same time. The result is a patent system that needlessly and significantly disrupts legitimate business activity.

This can be cleanly fixed. By tailoring the presumption of patent validity to the realities of patent review, the patent system could ensure that there is deference to decisions that are likely reliable, but a chance to revisit decisions that are hampered by budgetary and informational constraints. Reasonable minds might disagree over the details of how best to implement that reform. For instance, there are colorable arguments for giving slightly more or less of a presumption in various situations, and colorable arguments for tweaking the timing of the various patent procedures I describe. Importantly, however, there is no colorable defense for the status quo. The challenge from here is therefore a political one, and success will largely turn on whether the Patent Office or Congress can unite enough of the various stakeholders to achieve what is an obvious and necessary patent system fix.

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For Further Reading

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