

The Patent System At a Crossroads

A looming Supreme Court decision could either continue or reverse the erosion of intellectual property rights.

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For approximately four decades starting in the late 1930s, the U.S. patent system was in a state of distress. Courts widely invalidated patents, antitrust risk cast a cloud over licensing arrangements, and antitrust enforcers issued compulsory licensing orders covering some of the country's largest patent portfolios.

While our current patent system has not yet reached the nadir of that period, it stands at an inflection point at which it is strongly tending in that direction. Over the past decade, virtually every branch of government has taken steps to degrade patent security.

Starting with the Supreme Court's 2006 decision in *eBay v. MercExchange* (which limits the availability of injunctive relief in patent litigation), approximately three-quarters of its patent-related decisions have disfavored patent holders. Lower courts have broadly interpreted *eBay* to effectively institute an implied working requirement that generally denies injunctive relief to non-practicing patent holders. Supreme Court decisions in 2012, 2013, and 2014 have cast doubt on the validity of thousands of patents in the software, biotechnology, and medical diagnostic industries. Other Court decisions in 2008, 2015, and 2017 have limited transactional latitude in setting the terms of intellectual property licensing relationships. Enactment of the Leahy-Smith America Invents Act of 2011, followed by its implementation at the Patent and Trademark Office (PTO), has substantially expanded opportunities to challenge a patent's validity through the *inter partes* review proceeding. Finally, the antitrust agencies have taken actions and some federal courts

have issued decisions that limit or effectively eliminate the ability of owners of "standard essential" patents—a key intellectual property asset in information technology markets—to pursue injunctions against infringers.

The sum-total effect of this policy shift has been an erosion of the property-like nature of the patent right and a creeping reversion toward the weak patent regime that prevailed during the postwar period. This under-discussed development takes center stage in *Oil States Energy Services v. Greene's Energy Group*, a potential landmark case that the Supreme Court will decide before the end of its current term. The case involves a constitutional challenge to the administrative *inter partes* review proceeding on the ground that it deprives patent holders of their right to a judicial proceeding in Article III courts. Resolving that question turns on another fundamental question: is a patent a private property right or a "mere" statutory obligation? The choice between these two forks in the long and winding road of patent law (the former leading to the federal courts, the latter to PTO tribunals), and some reasonable side-paths in between, will have profound implications for the property-rights institutions that govern technology markets.

ADMINISTRATIVE VS. PROPERTY-RIGHTS VISIONS OF THE PATENT SYSTEM

The *Oil States* case raises a fascinating and infrequently encountered mix of patent and constitutional doctrines that has given rise to vigorous debate among legal scholars and other commentators. More broadly, however, *Oil States* presents a unique opportunity to reflect candidly and explicitly upon a fundamental distinction—and social choice—between two opposing visions of patent and innovation law and policy. That choice is whether the allocation of resources to innovation should

be principally directed by market forces or by a regulatory and judicial apparatus. The Court's patent-skeptical decisions—and supporting actions by Congress, the PTO, and the antitrust agencies—have attenuated patents' property-like character. In doing so, the decisions have eroded an institutional predicate for market allocation, thereby implicitly favoring the administrative vision of an innovation economy. The emerging consequence is a legal regime in which patents are widely treated as statutory entitlements perpetually subject to repeated refinement or outright invalidation by courts and regulators. That “law-heavy” approach makes for an awkward fit with an innovation economy that relies on bottom-up market signals to allocate resources to innovation, rather than top-down, government-driven directives, whether through judicial, regulatory, or legislative action. Naturally, firms and other market players cannot securely negotiate and enter into intellectual property-intensive transactions in an environment in which dissatisfied parties can easily petition a court, tribunal, or agency to revisit a fundamental assumption of the deal after the fact.

PROPERTY-RIGHTS EROSION IN INNOVATION MARKETS

Changes in property rules have implications for the structure and terms of market transactions. This basic principle can be seen in action as the weakening of the patent system incrementally shifts bargaining leverage from net technology producers to net technology users. Given little credible prospect of a “shut-down” injunction (the famous 1986 closure of Kodak's instant camera division after having been found to infringe Polaroid's patents now being a faint memory), it has now become popular in certain business and policy circles to endorse so-called “efficient infringement” strategies. For a midstream or downstream firm that relies on upstream technology inputs, this amounts to a unilateral policy of “use now, pay later,” with the payment terms to be negotiated in the shadow of the emergent quasi-compulsory licensing regime in the courts and PTO tribunals. If the alleged infringer has greater litigation resources at its disposal than the patent owner (a scenario that is far from unusual), and an injunction is increasingly nothing more than a theoretical threat in a broad range of circumstances, then the licensing terms will be discounted accordingly. Contrary to assertions that simply assume that adjudicative processes can ascertain what is deemed to be a “reasonable” licensing rate and therefore make the patentee whole, this substitution of judicial and regulatory arbiters for the impersonal arbiter constituted by market forces is almost certainly a one-way ticket toward resource misallocation. As rigidly administered pricing through adjudicative processes displaces adaptive market-based pricing through negotiated contracts, judicial and other governmental decisionmakers will increasingly lack any real-world reference point by which to calculate patent damages in order to mimic hypothetically negotiated royalties. (Data point to consider: the congressionally deter-

mined rate for the compulsory “mechanical” license for musical compositions under the Copyright Act was fixed at 2¢ from 1909 to 1977.) For patent holders that have no reasonable prospect of securing injunctive relief (an increasingly large portion of the total patentee population), this is a compulsory licensing system in all but name only.

EMPIRICAL SCRUTINY OF THE PATENT “PARADE OF HORRIBLES”

Notwithstanding the adverse side-effects inherent to an administratively oriented patent regime, it may be the case that a robust patent regime imposes other social costs that are sufficiently great so as to support taking meaningful steps away from the property-rights baseline that is a tried-and-true foundation for well-functioning tangible goods markets. Conventional wisdom implies that there is something different about markets for intangible goods or, at least, about deploying property rights in those markets. Judges, legislators, and regulators who have taken actions attenuating patent rights have widely relied on a governing narrative that attributes a parade of horrors to the reinvigorated protection of patents rooted in the 1980 enactment of the Bayh-Dole Act (which authorized recipients of federal research and development funding to seek patents on inventions developed using such funding) and the establishment in 1982 of the Court of Appeals for the Federal Circuit. Following that narrative, the PTO has issued too many and overly broad patents, the Federal Circuit has adopted doctrines that are overly protective of patents, and as a result the patent system has imposed an excessive tax on manufacturers, consumers, and follow-on innovators. If all that is true, it follows that patent strength and volume should be cut back accordingly.

Remarkably, this narrative has never been soundly demonstrated through empirical inquiry. Some elements have never even been rigorously tested until recently. A growing body of research has now undertaken that task and the results cast substantial doubt on key assertions of the policy consensus. It is by now clear that empirical reality is more complex than has typically been assumed and, in some cases, is flatly at odds with the “problems” identified by the standard narrative.

“Patent troll” problem / Conventional wisdom describes non-practicing entities (NPEs) as firms that acquire patents but do not then use them to produce goods; rather they license the patents to others and pursue legal action against those who decline the offer. Within this framework, NPEs are mere litigation shops that bring opportunistic suits to extract exorbitant settlements from operating businesses, purportedly imposing estimated costs in the order of tens of billions of dollars annually. (See “The Private and Social Costs of Patent Trolls,” Winter 2011–2012.)

Yet recent research by Jay Kesan and David Schwartz has cast significant doubt on those estimates, which in any case are gross values that do not reflect the innovation gains that may arise

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directly or indirectly from the availability of patent enforcement intermediaries such as NPEs. Relatedly, Christopher Cotropia, Kesan, and Schwartz show that entities that are typically placed under the broad brush of the “non-practicing” label pursue a variety of business models, some of which include significant R&D, licensing, and sometimes even sales activities, or they deliver monetization pathways to individual inventors and small firms that may be unable to do so independently.

“Bad patents” problem / Conventional wisdom says that the PTO grants patents at unusually high rates (a widely repeated but now rebutted figure is 97%), implying that applicants face nominal hurdles in obtaining patent protection and casting doubt on the average quality of issued patents, especially as compared to other major patent offices. Yet recent research by Ron Katznelson and, separately, Michael Carley, Deepak Hedge, and Alan Marco shows that these assertions relied on simplified methodologies that overlook the unique complexities of the PTO examination process (due in part to applicants’ ability to file new, related applications known as “continuations”). Revised estimates using more refined methodologies and expanded datasets show substantially lower grant rates that significantly diminish concerns over a flood of “bad” patents. Strikingly, Carley, Hedge, and Marco find that, based on multiple measures, grant rates at the PTO *declined* between 1996 and 2005, contrary to the widely accepted narrative that the PTO has become excessively lenient toward patent applicants.

“Royalty stacking” problem / Conventional wisdom says that thousands of patents in the smartphone and other consumer electronics markets have burdened manufacturers with a heavy “royalty stack,” purportedly imposing onerous royalty rates that threaten to increase consumer prices or delay innovation. Related claims state that holders of critical standard-essential patents in these markets burden manufacturers and assemblers with exorbitant licensing demands—often estimated to reach into double-digit figures per device—that similarly threaten to inflate end-user prices and slow down innovation. My research shows that those assertions overlook evidence that major device manufacturers have typically negotiated cross-licensing offsets that substantially reduce any such royalty burden. In fact, recent empirical studies show that the estimated total percentage royalty in the smartphone market is in the low to mid single digits on a per-device basis. Relatedly, Alexander Galetovic, Stephen Haber, and Ross Levine show that, adjusted for quality, the prices of consumer electronics reliant on standard-essential patents have consistently declined since at least the late 1990s.

“Patent thicket” problem / Conventional wisdom says that patent-intensive markets get stuck in a “thicket” of conflicting legal claims, again raising prices and delaying innovation. Yet repeated surveys of biomedical researchers by John Walsh, Wesley Cohen, and others find that, since the onset of patenting in biotechnology and related fields starting in the early 1980s, these concerns have yet to materialize. My research has shown that, over a century running through the present, patent-intensive markets are consistently adept at anticipating thickets and then forming patent pools and cross-licensing structures that preempt or mitigate them. (The only exception to this pattern arose during

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the postwar period when antitrust law overzealously imposed a *de facto* prohibition on patent pools.) Remarkably, I found that these transactional capacities are especially well-developed in the multi-component information technology markets in which conventional wisdom anticipates that patent roadblocks would be most severe.

THE OVERLOOKED VIRTUES OF STRONG PATENTS

The accumulated and growing body of contrarian evidence poses a stiff challenge to conventional assumptions that have undergirded government actions and statements targeting property-like attributes of the patent system. Contrary to popular belief, there is no firm factual basis to confidently assert that patent litigants are typically bringing opportunistic suits, that the patent system is regularly issuing low-quality patents, that smartphone and other consumer electronics markets are threatened with onerous royalty burdens, or that technology markets are stuck in a morass of patent claims that will frustrate innovation. If these “problems” are far less significant than had been thought to be the case, then much of “patent reform” starts looking like a solution in search of a problem.

But that is not the only failing of the prevailing consensus. The conventional narrative not only overstates the vices of a strong property-like patent system, but largely neglects its virtues. Those virtues extend substantially beyond the standard incentive rationale behind intellectual property rights. That standard rationale focuses on the role of patents in motivating invention while overlooking the role of patents in facilitating and structuring the follow-on commercialization process leading to market release.

Patents play two key functions in that process. First, a strong patent system supplies a robust revenue mechanism for idea-rich but capital-poor innovators who would otherwise have difficulty protecting their innovations against second-movers. Business history shows that the large incumbent is often the second-mover, deploying its formidable financing, production, and distribution capacities to outmatch the entrepreneur-innovator who came up with the bright idea in the first place. Second, a strong patent system provides a reliable legal infrastructure for making markets in intellectual assets. Secure patents enable a scientist-founded biotech startup to attract capital from investors and negotiate partnerships with large pharmaceutical firms that can undertake the “heavy lifting” required to deliver new therapies to the medical marketplace. Secure patents enable a chip-design startup to negotiate relationships with independent chip manufacturers and bypass the capital requirements that would otherwise frustrate entry into a market once dominated by large, integrated firms. In these cases, patents are hardly a tax that stunts innovation and hurts consumers; rather, they are a tool that enables entrants to challenge incumbents.

CONCLUSIONS

The patent system stands at a historical crossroads between the weak system of the postwar economy and the strong system that emerged in the early 1980s. Both the head of the U.S. Justice Department’s Antitrust Division, Assistant Attorney General Makan Delrahim, and the acting chairman of the Federal Trade Commission, Commissioner Maureen Ohlhausen, have separately called for revisiting recent patent-skeptical policies. These statements echo empirical work that has raised significant grounds to rethink conventional understandings of the real-world effects of the patent system.

At this important juncture, the issues raised by *Oil States* illustrate the fundamental choice between a bottom-up, property-based or top-down, administratively oriented approach toward patent and innovation policy. That choice is embodied by *Oil States* but, whatever the Court’s decision in this particular case, it will continue to drive debates over the direction of patent and innovation policy. In weighing that choice in different contexts, it will be worthwhile for policymakers and commentators to bear in mind the error committed by several decades of pre-Chicago antitrust jurisprudence, which repeatedly protected the interests of particular competitors at the expense of competition in general. Only the latter objective is consistent with consumer welfare from anything other than an extremely short-term perspective.

Eroding patent security delivers an immediate gain by reducing the input costs of integrated manufacturers, platform firms, and other “implementers” located at midstream and downstream points on the technology supply chain. Unsurprisingly, these stakeholders have mostly (and successfully) advocated for curtailing patent strength.

Depending on competitive pressures, heeding these constitu-

encies’ calls for “patent reform” may also deliver short-term price reductions for consumers. (If reducing patent strength only reduces input costs, then it engineers a difficult-to-justify wealth transfer from upstream innovators to downstream implementers.) But this runs the risk of making a myopic social choice that forfeits future “macro” growth for present “micro” cost-savings. Replacing the wired telephone with a smartphone is the social goal of patent law—not taking a few cents off the existing wired telephone.

Perhaps of greatest concern, substantially diluting the property-like attributes of patents endangers the viability of upstream R&D-intensive firms that often deliver the most dramatic innovations but require a secure intellectual property portfolio in order to monetize those innovations through commercialization relationships. As patent security falters, innovation is prone to turn inward as innovator-entrepreneurs retreat to the shelter of platform-based firms and other large integrated enterprises that can wield scale and scope to internalize returns from new technologies. That hardly seems like the recipe for an entrepreneurial innovation economy in the 21st century. R

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