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Competition Perspectives on Patent Law Substance and Procedure: An Overview of the FTC/DOJ Hearings and the FTC Report

Hillary Greene
University of Connecticut School of Law

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In November 2002, the Federal Trade Commission and the Department of Justice conducted hearings examining the "implications of competition and patent law and policy for innovation and other aspects of consumer welfare." The antitrust agencies sought to better understand and contribute to society's calibration of the balance between competition and patent law and policy. The hearings were extensive; they took place over twenty-four days and involved more than 300 panelists and approximately 100 public comments. The contributors and organizers were also able to draw upon a vast body of research and commentary regarding the relevant issues. In October 2003, the FTC released its report, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy.* This article briefly surveys both the FTC Report and the underlying hearings.

The Report analyzes patent law and policy from a competition perspective, which it defines as treating "consumer welfare over time as the goal of both competition and patent policy and reflecting the application of economic analysis to patent issues." (Ch. 4, at 1) Consumer welfare takes into account both static efficiency considerations, such as price and quantity, and dynamic efficiency considerations, such as the nature, speed, and diffusion of innovation. From the FTC's competition perspective, the patent system should achieve four main policy objectives:

1. Provide efficient incentives for innovation;
2. Safeguard the patent system's disclosure functions (receipt of patents requires public disclosure of the underlying invention);
3. Avoid unnecessary restraints on competition; and
4. Minimize the sum of error and process costs and the detrimental effects of uncertainty. *Id.* ch. 1, at 35–37.

The FTC ultimately concludes that, "although most of the patent system works well, some modifications are needed to maintain a proper balance of competition and patent law and policy." (Exec. Summary, at 4)

Largely tracking the organization of the Report and the hearings upon which it is based, this article first explores the fundamental relationship among patents, competition, and innovation and, in so doing, explains the significance of "patent quality" to competition. The article then discusses how the Report analyzes the contours of that relationship as a function of the basic substantive patentability doctrines and various patent procedures and presumptions. Finally, the FTC's specific recommendations to the Patent and Trademark Office (PTO), the courts, the Congress, as well as the FTC's intentions for its own actions, are presented.

The Competitive Significance of Patent Quality

Central to the Report is its conclusion that "questionable patents are a significant competitive concern and can harm innovation." (Exec. Summary, at 5) Patent quality issues can be analyzed along two dimensions. First, the law itself is taken as a given, and the question is: to what extent is it being properly applied? Second, the law is not taken as a given, and the question is: to what extent does the law reflect the underlying goals sought to be achieved? In abstract terms, therefore, a poor quality patent is one the issuance of which reflects misapplication of the law or flaws in the law itself. Stated more concretely, poor quality patents are likely to be invalid either in whole or in part (specific claims may be overly broad), (Exec. Summary, at 5) or, even if such patents are nominally valid, they arguably ought not to be. (Exec. Summary, at 5)

Poor quality patents include those that fail a "but for" test. Namely, the prospect of patent protection was unnecessary for the invention to have emerged in the same general time frame with the attendant disclosure and commercial development. (Ch. 1, at 37) With such substandard patents, society may incur the competitive costs without the concomitant benefits to innovation. Economist David Teece aptly summed up the role of the antitrust agencies within this cost-benefit analysis, "Antitrust authorities have a policy role to play encouraging reform when it comes to patent quality even if it is not an antitrust enforcement issue." 6

The complexity of the relationship between patents and innovation emerges even in the simple example of stand-alone innovation. Patents promote innovation by enabling the patentee to better appropriate rents from the invention. And public disclosure of the invention, the quid pro quo of patent law, further stimulates innovation. But actual achievement of the patent system's goals may be undermined through questionable patent quality. (Ch. 2, at 4) "Such uncertainty [regarding patent quality] harms competition and innovation by distorting business planning, increasing costs and risks, and interfering with the raising of capital and the negotiation of licenses. (ch. 5, at 20)"

Assessing the trade-offs that patents entail becomes even more complicated when one considers sequential innovation. Innovation is often continuous. A follow-on innovation may build on an initial patent; a further follow-on innovation may...
build upon that prior change; and so on. With sequential innovation, the implications of poor patent quality become even more pronounced. Even a poor quality patent "necessary" to subsequent innovation can act as a blocking patent, and a number of such patents can create or contribute to a patent thicket.

A blocking patent exists when others cannot exploit their own inventions without infringing. Such patents may contribute to market power when substitutes are unavailable and designing around the patent is technically infeasible or when the patent is necessary to comply with a marketplace standard. A patentee may prolong market power by precluding access to technology necessary for the next generation of products to emerge. To the extent that the promise of patent protection is necessary to stimulate invention, disclosure, or investment, society accepts the costs attendant to blocking patents as necessary to maximize long-term economic welfare. If the promise of patent protection is unnecessary for those purposes, however, then the costs—which may include higher prices or retarded follow-on innovation—may cause unjustified consumer injury. (Exec. Summary, at 7)

At the hearings, various representatives from the biotechnology industry (which uses "cellular and molecular processes to address problems or make products") stated that R&D within their industry is "particularly lengthy and commercialization is 'particularly difficult.'" (ch. 3, at 15-16) One representative stated that firms facing potentially blocking patents which their analysis shows "may be invalid, may be susceptible to prior art attacks," often have no choice but to "walk away from that area and decide not to engage in development in that technology."

In the case of patent thickets, consider the situation where a firm requires access to multiple, existing patent-protected technologies. Several panelists discussed a number of potential harms that could flow from poor quality patents within this context. For example, patent law professor John Duffy noted that if the patentability standards—such as requiring that inventions be "nonobvious"—are set too low, a "profusion of paltry patents" could result. He further cautioned that although each individual patent may not "impose significant output constraints . . . collectively they're very expensive to search and license, . . . [T]hey may be a mine field . . . generating a great deal of litigation due to accidental infringements." Id. This environment could undermine innovation because firms fear being sued after considerable investment. Even if these firms could obtain licenses, there is nothing to guarantee that multiple stacked licenses would not render the undertaking infeasible. (ch. 2, at 28, 32-33)

Industry Variation. As even this cursory discussion of blocking patents and patent thickets suggests, the role of patents varies among industries. A substantial portion of the hearings, six of twenty-four days, involved panelists drawn heavily from the business and economics communities discussing the relationship among patents, competition, and innovation within different industry contexts (pharmaceutical, biotechnology, computer hardware/semiconductor, and software/Internet). The FTC found that the role of patents in spurring or impeding innovation often varied among industries owing to diverse factors ranging from the attributes of the innovation (e.g., discrete or cumulative), to industry characteristics (e.g., barriers to entry or capital intensity), to other factors (e.g., alternative appropriability mechanisms). (ch. 3, at 1) Despite all these potential differences, panelists generally agreed that poor patent quality blunts incentives to innovate. (ch. 3, at 2)

A Competitive Analysis of Patent Law Basics

Understanding the competitive consequences of poor quality patents requires some understanding of substantive and procedural patent law. Those seeking patent protection file a patent application with the Patent and Trademark Office. Evaluation of that application is governed by a combination of Congressional statutes, federal court rulings, and PTO rules. In general terms, substantive patent law addresses the issues of when to grant and uphold a patent as valid and how to determine the proper scope of a patent's claims. The procedures and presumptions of patent law concern those patent system mechanisms used to examine, reexamine, and litigate patent validity. A few examples drawn from the Report illustrate the FTC's competitive analysis of patent law basics.

Substance. The substantive standards for patentability are statutory and focus on four main issues: what categories of invention are potentially patentable; whether a particular invention is sufficiently innovative to merit a patent; whether the invention is useful; and whether the patentee has sufficiently disclosed the nature of the invention. Based on the hearings record, the FTC found that the fundamental statutory standards for patentability as currently written could be construed in a manner that adequately addresses competition concerns and do not require change. (ch. 4, at 4) However, the FTC also found a basis for the concerns many panelists expressed regarding the interpretation and application of those statutory standards. The Commission concludes that the PTO and the courts can utilize the flexibility inherent in the basic patent standards to help address a number of concerns.

Important challenges exist in attempting to better calibrate the substantive patent criteria. This can be seen by examining the criteria governing the sufficiency of innovation and disclosure.

Sufficient Innovation. To be eligible for patent protection, an invention must be nonobvious. This requires both that the invention claimed differs from the prior art and that those differences would not be obvious to a person having ordinary skill in the art. Herbert Wamsley, Executive Director of the Intellectual Property Owners Association, has described the nonobviousness requirement as "the heart of the patent law." He further stated that a "reasonably high obviousness test" is needed. Id, at 139. One patent law professor characterized the effect of a low nonobviousness standard as recreating the misallocation of resources that the patent system
The generally. of patent as lirigat instead may is truly enabled, products that should be free to compete defined too.
clear that the inventor has actually invented what the patent out insufficient to permit one skilled in the art to conduct his or her invention. The
enablement doctrine requires the inventor to disclose the claimed invention in a manner sufficient to permit one skilled in the art to
description requires the inventor to describe the invention sufficiently so that it is clear that the inventor has actually invented what the patent claims. (ch. 4, at 22)
The disclosure doctrines determine the breadth of the patent issue. The FTC discussed many competitive implications of patent breadth. For example, "[i]f breadth is
defined too broadly, such as if it is broader than that which is truly enabled, products that should be free to compete instead may be blocked, and unwarranted market power may result. (ch. 4, at 21) If breadth is defined too narrowly, it may unnecessarily subordinate patent rights and potentially contribute to the growth of a patent thicket which could itself impede innovation." Id.

Procedures and Presumptions. To ensure patent quality, the patent system needs procedures and presumptions that, whether through PTO proceedings or other routes such as litigation, efficiently protect against improvidently granting patents or issuing patents of improper breadth, and efficiently filter out such patents that are granted. Assessments of patent quality also inevitably require consideration of process and transaction cost issues and PTO resources more generally. To put transaction cost and resource issues in perspective, the FTC received substantial testimony regarding the PTO's workload. Then-PTO Director James Rogan, addressing the Hearings, characterized patent applications recently faced by the PTO as an "unprecedented explosion." In general terms, patent applications have doubled over the last twelve years. In 2001, the PTO received 300,000 applications and issued 190,000 patents. A corps of 3000 examiners must deal with these applications—a corps which, many from the hearings claimed, has a difficult time retaining senior examiners and is often overworked. Though official statistics are not released, many panelists estimated that the examiners spend somewhere between eight to twenty-five hours per patent. (ch. 5, at 4–5) The general impression communicated was that this was insufficient time to "read and understand the application, search for prior art, evaluate patentability, communicate with the applicant, work out necessary revisions, and reach and write up conclusions." Id. at 5. Many argued that patent quality suffers as a result, and that increasing pendency periods are also a problem. Id.

The FTC found persuasive the argument that because most patent applications are not economically significant, society should focus its resources upon those patents of significance rather than "investing additional resources examining patents that will never be heard from again." (Exec. Summary, at 7, quoting Professor Mark Lemley) Examinations. A defining characteristic of patent examinations is their ex parte nature. Only the examiner and applicant are involved in the process, during which the examiner must evaluate whether the patent meets the substantive patentability criteria. This is the context in which the critical nonobviousness determination is made. A key element of an examination occurs when the examiner compares the claimed invention with the "prior art." The patent examiner must conduct his or her own prior art search without the benefit of third-party input and with limited applicant assistance. (ch. 5, at 7) The PTO's logistical burden assumes particular significance owing to the legal burden it also bears. The courts essentially require that the invention claimed in an application is "presumed to warrant a patent" unless the PTO proves otherwise. (Exec. Summary, at 9) Throughout the hearings, many argued that this combination of procedures and presumptions increases the likelihood of improvidently granted patents.

Litigation. Litigation can focus attention on those patents that are most likely to hold commercial significance and weed out from this group poor quality patents. However, several features militate against whether litigation can routinely accomplish this task. For example, representatives across all industries described the "costly nature of litigation to invalidate patents, both in terms of dollars and resources diverted from research and development." (ch. 3, at 2) They opined that even when challenged with poor quality patents, many firms will pay licensing fees rather than become embroiled in typically expensive and lengthy patent litigation. Id. Many panelists recommended that a timely, less costly mechanism to review poor quality patents would enhance innovation. Id.

Several panelists also expressed concerns regarding antitrust litigation. They discussed how firms in different industries have developed licensing practices to extract value from patents or, in some cases, to obviate some of the problems patent thickets raise. However, they also raised concerns that uncertainty regarding antitrust enforcement may unnecessarily hinder the use of certain methods to extract patent value. (ch. 3, at 2–3)

Recommendations for Patent and Competition Law and Policy
The FTC's central conclusion is that, for the most part, the patent system as statutorily prescribed strikes the proper balance with competition policy, and that patent fundamentals, such as the statutory standards of patentability, are—when properly interpreted—compatible with competition policy. (Exec. Summary, at 2) Moreover, the FTC recognizes and supports many ongoing efforts on the part of the Congress, the PTO, and the Federal Circuit that have increased that level
of compatibility. Consistent with that general outlook, the FTC directs a series of ten recommendations (grouped below into five categories) to the Congress, the Court of Appeals for the Federal Circuit, and the PTO. Through them, the FTC seeks to improve patent quality and minimize anticompetitive aspects of the patent system.

**Funding.** The single point of unanimity among hearing participants was that the PTO lacks sufficient resources to fully address patent quality. The FTC agrees and, therefore, recommends that the PTO receive additional funds so that it can improve the quality of its determinations on patentability. (ch. 4, at 18) Though not a panacea, certain problems associated with patent quality are susceptible to improvement through ensuring adequate funding.

**Economic Learning.** The FTC Report states that to find the proper balance between patent and competition law, policy-oriented interpretations that reflect economic thinking are essential. (Exe. Summary, at 17) The FTC's recommendations regarding substantive and procedural patent law reflect such economic thinking. In addition to specific proposals, the FTC encourages the Federal Circuit and the PTO to incorporate economic considerations more generally into their decision making.

**Substantive Criteria.** Those recommendations address substantive patentability doctrines seek to better ensure that the legal thresholds for granting patents are consistent with promoting competition and innovation. At one extreme, an overly lax nonobviousness standard can generate a "profusion of minor patents" or, at the other extreme, it can create significant market power based upon a "technically trivial development." (ch. 4, at 5)

Many panelists attributed low quality patents to the Federal Circuit's application of the "suggestion test." "Sometimes all of the elements of a claimed invention do not exist in any one prior art document but rather in several different documents. The question under the nonobviousness test then becomes to what extent anything would have "suggested" in a person of ordinary skill in the art that these separate pieces of prior art be combined. Panelists were in substantial agreement that the Federal Circuit essentially requires the PTO to provide "specific and definitive [prior] art references with clear motivations on how to combine those references. . . ." 19

The Commission recognizes that the Federal Circuit's "suggestion test" was motivated in part by the legitimate concerns that the PTO develop an evidentiary basis for its findings and in part by the court's concern with simply taking an inventor's disclosure "as a blueprint for piecing together prior art to defeat patentability—the essence of hindsight." (ch. 4, at 13) Nonetheless, the FTC also believes that "some of the patents upheld as nonobvious under the [Federal Circuit's prevailing] suggestion test may be obvious under statutory standards." "Id. The FTC cautions that, "a standard that requires suggestions or motivations exceeding what inventors actually need, or that rigidly insists upon concrete documentation of facts that by their nature are not concretely demonstrable, can impair competition." "Id.

**Procedures.** FTC recommendations addressing patent procedures seek to improve PTO access to information necessary for accurate determinations, whether through increasing applicant obligations or third party access. One recommendation is that Congress create a new administrative procedure to allow post-grant review of and opposition to patents in order to provide a meaningful opportunity to challenge the grant of a patent short of full-scale litigation. (ch. 5, at 18-24) As former PTO Director Dickinson explained, reexamination and opposition are means for "competitors to interact" with the patent process "much more efficiently and effectively" to "improve . . . the quality of patents that issue. . . ." 20

Post-grant review proceedings would be of particular interest to those whose activity would otherwise be unnecessarily chilled by poor quality patents. In this way, post-grant review offers a market-based inquiry because such challenges are more likely to focus upon patents of economic significance. (ch. 5, at 19) Such a focus avoids the cost and inefficiency that would likely characterize any effort to perfect all examinations. Post-grant review offers an opportunity for timely resolution of uncertainty regarding patent validity in the settings where that would be valued most. The FTC indicates that the contours of its specific proposal reflect the objectives of "offering sufficient value without duplicating litigation and protecting the patentee against harassment and undue delay." (ch. 5, at 20-23)

**Presumptions.** The Report also recommends that certain legal presumptions, such as for litigated challenges to patent validity, better reflect the realities of PTO procedures and resources. Although the Patent Act merely requires that patents shall be presumed valid, the FTC observes that the Federal Circuit has "interpreted this requirement to impose a clear and convincing evidence standard on those who challenge validity," despite the fact that the PTO's underlying determinations are based on the lower "preponderance of the evidence" standard. (ch. 5, at 26-28) The FTC concludes that the "[p]resumptions and procedures that favor the grant of a patent application, combined with the limited resources available to the PTO, counsel against requiring 'clear and convincing evidence' to overturn that presumption." (Exe. Summary, at 10) The FTC states that if "market-selected inquiries cannot be conducted on a level playing field, there is serious potential for judicially confirming unnecessary, potentially competition-threatening rights to exclude." (ch. 5, at 28) Accordingly, it recommends that Congress enact legislation specifying that challenges to patent validity be determined based on the same standard by which patents are conferred—"preponderance of the evidence." "Id.

**FTC Activities.** As the FTC's Report recounts, the consequences of patents for competition law and policy are profound and ongoing. Not surprisingly, then, the FTC charts a course of future conduct
including a multi-faceted effort to increase communication between the antitrust agencies and patent institutions. (ch. 6, at 21–24)

**Filing Amicus Briefs.** "The FTC will increase its competition advocacy role through filing amicus briefs in appropriate circumstances." (ch. 6, at 21) The FTC has a long history of competition advocacy, and it believes it can serve the public interest by presenting its perspectives in patent cases that affect competition. *Id.* at 21–22.

**Requesting PTO Reexamination.** "In appropriate circumstances, the FTC will ask the PTO Director to reexamine questionable patents that raise competitive concerns." (ch. 6, at 22) Panelists suggested that individual firms license dubious patents because no single firm has the incentive to finance the legal challenge. The FTC can, however, consider the cost such patents pose to an entire industry and the public at large and, therefore, overcome such coordination problems. The FTC has requested PTO reexamination in the past and will do so on a selective basis going forward. *Id.*

**Encouraging Development of New Avenues for Communication.** The FTC will encourage greater dialogue and coordination between patent institutions and antitrust agencies. (ch. 6, at 22) Former PTO Director Dickinson described such communication as able to "head off problems . . . and . . . always, always beneficial."32 Professor Brian Kahin stated that the key to such communication is that it be "continual and not occasional."33 The FTC's recommendations to formalize such communication include the establishment of a Liaison Panel between the antitrust enforcement agencies and the PTO and the foundation of an Office of Competition Advocacy within the PTO to advise PTO policymakers about the competitive impact of their policies. (ch. 6, at 23)

**Antitrust Activities.** One motivation for undertaking the hearings was the practical recognition that increasing numbers of antitrust cases involve patents or patent-related conduct. Further insights into the patent system's functioning generally and its operation within different industry contexts provide an important storehouse of background information for the agencies when developing antitrust policy and evaluating enforcement actions.

A second report from the hearings directly addressing antitrust issues will be issued by the FTC and DOJ in 2004. While it is premature to address the content of that report, the critical foundation has been laid. Throughout the hearings, the agencies received considerable testimony regarding different tools used to navigate the patent landscape. Specifically, testimony addressed practices including cross-licensing, patent pools, standard setting, and reach-through licensing agreements. In the second report, the antitrust agencies will explore how antitrust policies regarding such practices can strike the proper balance between patents and competition.34

**Conclusion** Throughout the hearings, the FTC and DOJ drew upon an extraordinary reservoir of expert opinion and analysis on the relationship between patents, competition, and innovation. As the law and policy of patents and competition are inextricably linked, the FTC's Report offers a critical perspective in the ongoing patent reform debate.35 The FTC concludes its Report by stating its desire "to include all parties in discussion and implementation of [its] recommendations." (ch. 6, at 24) Ideally, not only the FTC's recommendations, but also the concerns motivating them will become part of the broader social discussion regarding patent reform, and consumer welfare will be the better for it.

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2 The full Report, To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy, and all hearing materials (including transcripts, presentations, and public comments) are available online at the hearings homepage: http://www.ftc.gov/opi/intelect/index.htm.
3 All references to the FTC Report, supra note 2, will be indicated by chapter and page number.
4 PTO issuance of overly narrow patents would also constitute poor quality patents. This issue was not a major point of discussion.
5 "But/for" is offered primarily as a "foundational principle" rather than as a concrete test for individual cases. *Id.* at 7–8.
7 It has also been argued that concerns regarding patent quality may cause prospective patentees to rely more heavily on trade secrecy. See James J.安东 & Dennis A. Yao, Little Patents and Big Secrets: Managing Intellectual Property, 33 RAN J. ECON. 1 (2004).
8 David J. Earp, Feb. 20, 2002, at 291. All transcripts are available on the hearings home page, supra note 2; quotations will be referenced by the speaker, transcript date, and page.
12 Herbert Wamsley, July 10, 2002, at 20. The other sufficiency standard, novelty, was not a major point of discussion.
14 The third disclosure doctrine, best mode, was not a major point of discussion.
17 The Report discusses the contours of a patent applicant's duty of candor but makes no recommendation regarding various proposed reforms. (ch. 5, at 7–8, 11)
18 Moreover, "current standing requirements prevent a potentially infringing party from determining [patent validity] in advance . . . ." (ch. 3, at 22)
19 The Report also addressed another component of nonobviousness analysis, the commercial success test. (ch. 4, at 18–19).
22 Id. at 188-89.
24 The first report begins the process of formulating antitrust policy. (ch. 6, at 1–3).