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Optimizing Innovation and Strengthening Intellectual Property Protection

Maureen K. Ohlhausen
Acting Chairman, Federal Trade Commission

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Introduction

Good afternoon. My remarks today touch on an area that has been and will continue to be an area of special interest for me: optimizing innovation by protecting and strengthening IP protections. It is clear that strong IP rights are vital to the U.S. economy. The United States government recently reported that IP-intensive industries support at least 45 million U.S. jobs and contribute more than $6 trillion dollars to, or 38.2 percent of, U.S. gross domestic product.[1]

I have written at length—most recently in the *Harvard Journal of Law & Technology*—about the positive correlation between robust IP rights and R&D investment in developed countries.[2] As we begin our discussion this morning of optimal patent policy interventions, two leading studies warrant attention.

Scrutinizing cross-country data on R&D investment and patent protection from thirty-two countries from 1981 to 1995, Kanwar and Evenson found that "[t]he evidence unambiguously indicates the significance of intellectual property rights as incentives for spurring innovation." They found that "[t]he strength of intellectual property protection is positively and significantly associated with R&D. . . . Thus, countries which provided stronger protection tended to have larger proportions of their GDP devoted to R&D activities."[3]

That study followed work by Park and Ginarte, who examined data from sixty countries between 1960 and 1990 to explore the relationship between IP rights and economic growth. They

[1] U.S. DEP'T OF COMMERCE, INTELLECTUAL PROPERTY AND THE U.S. ECONOMY: 2016 UPDATE (2016), https://www.uspto.gov/sites/default/files/documents/IPandtheUSEconomySept2016.pdf.

[2] Maureen K. Ohlhausen, *Patent Rights in a Climate of Intellectual Property Rights Skepticism*, 30 HARV. J. L & TECH. 103 (2016).

[3] Sunil Kanwar & Robert Evenson, *Does Intellectual Property Protection Spur Technological Change?*, 55 OXFORD ECON. PAPERS 235, 249-250 (2003).

found that "IPRs affect economic growth by stimulating the accumulation of factor inputs like research and development capital and physical capital."[4]

A host of other empirical work finds a statistically significant relationship between patent strength and R&D investment. A 2013 Brookings report observed, "[r]esearch has established that patents are correlated with economic growth across and within the same country over time" and "R&D spending since 1953 is highly correlated with patenting and the patent rate."[5] Studying U.S. data between 1980 and 2010, the report concluded that "patenting is associated with higher metropolitan area productivity" and that "the most likely explanation is that patents cause growth."[6]

We also know that firms respond to changes in the strength of patent protection. In a well-known study, for example, Hall and Ziedonis examined the U.S. semiconductor industry between 1979 and 1995. They found that "large-scale manufacturers have invested far more aggressively in patents during the period associated with strong U.S. patent rights, even controlling for other known determinants of patenting."[7]

This is only a small introduction to the economic literature in this area. Still, it provides a useful framework as I address two of the FTC's most-recent IP policy initiatives: the revised IP licensing guidelines and our PAE report.

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[4] Walter G. Park & Juan Carlos Ginarte, *Intellectual Property Rights and Economic Growth*, 15 CONTEMPORARY ECON. POL'Y 51 (1997).
[5] JONATHAN ROTHWELL ET AL., BROOKINGS, PATENTING PROSPERITY: INVENTION AND ECONOMIC PERFORMANCE IN THE UNITED STATES AND ITS METROPOLITAN AREAS 4, 8 (2013).
[6] *Id*. at 15.
[7] Bronwyn H. Hall & Rosemarie Ham Ziedonis, *The Patent Paradox Revisited: An Empirical Study of Patenting in the US Semiconductor Industry, 1979-1995*, 32 RAND J. ECON. 101, 104 (2001).

IP Guidelines

In January 2017, the Federal Trade Commission and the U.S. Department of Justice jointly issued updated Antitrust Guidelines for the Licensing of Intellectual Property,[8] which state the agencies' enforcement policy with respect to the licensing of intellectual property protected by patent, copyright, and trade-secret law, and of know-how. This is the agencies' first update since the Guidelines issued in 1995.

Before discussing the revisions in detail, it is helpful to frame the economics of IP licensing. Forty years ago, Edmund Kitch famously theorized his "prospect" theory of patents:[9] broad patents issued during the early stages of development will encourage technological investment after the property right is granted.[10] I have noted that this represents the "Coase Theorem" in action. By voluntarily contracting with one another based on an initial allocation of property rights, parties efficiently reallocate entitlements to higher-value uses.

Patents, and patent licensing, facilitate this distribution of resources. Stakeholders may choose to focus on developing early-stage technology, addressing technological improvements, or bringing the final product to market. Clearly defined patent rights allow participants to engage in efficient bargaining, *ex ante*, to deliver the optimal product to consumers. The FTC explained this dynamic in its IP Marketplace report from 2011[11], noting the roles of universities and semiconductor design houses as facilitating development through technology transfer.

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[8] U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY (2017), https://www.ftc.gov/system/files/documents/public_statements/1049793/ip_guidelines_2017.pdf [hereinafter 2017 Guidelines].

[9] Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J L & ECON. 265, 265-66, 268 (1977).

[10] *Id*. at 276.

[11] FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION, (Mar. 2011), https://www.ftc.gov/reports/evolving-ip-marketplace-aligning-patent-notice-remedies-competition.

While IP licensing generally is procompetitive, antitrust enforcers have a role to play in protecting against competitive abuses. In the past, however, I have expressed concern when less like-minded overseas enforcers apply their antitrust laws to dilute IP rights. Doing so inappropriately morphs antitrust law into a tool for price regulation and create harmful disincentives for innovation. Consequently, I have long favored an evidence-based approach towards evaluating potential IP abuses in the antitrust space. The 2017 Guidelines exemplify my approach to antitrust/IP issues, and offer the following reasonable guideposts:

First, the Guidelines represent a modest update, embracing principles of commendable flexibility. Some commenters called upon the U.S. agencies to create new, specialized, guidelines to address FRAND-encumbered SEP, PAE, or pay-for-delay issues. I did not support this. As I have said before, "IP issues are not a special case that requires a different competition jurisprudence."[12] For more than twenty years, the Guidelines have offered general guidance that has adapted to new and complicated issues in the IP space. Under this precedent, we should be careful not to establish new standards without compelling evidence to do so.

Second, the Guidelines continue to affirm that IP laws grant "enforceable rights," which have social value.[13] Intellectual property laws incentivize innovation by establishing enforceable boundaries to protect new products, more efficient processes, and original works of expression. Without IP rights, imitators could exploit investments in R&D without compensation. As the Guidelines recognize, "Rapid imitation would reduce the commercial value of innovation and erode incentives to invest, ultimately to the detriment of consumers."[14]

[12] ABA Section of Antitrust Law's Intellectual Property Committee, *Interview of Commissioner Ohlhausen*, PUBLIC DOMAIN 11-12 (Feb. 2016).
[13] *Id*. at 1-2.
[14] *Id*. at 2.

Third, the Guidelines state that "antitrust laws generally do not impose liability upon a firm for a unilateral refusal to assist its competitors."[15] Read together with the Agencies' 2007 IP Report, which stated that, "liability for mere unconditional, unilateral refusals to license will not play a meaningful part in the interface between patent rights and antitrust protections,"[16] it is clear that the Guidelines will continue to protect strong IP rights in the United States.

The PAE Report

I turn now to the FTC's recent report on patent assertion entities, which we issued last October.[17] Our report was in good company. Last fall, the European Commission's Joint Research Centre issued its report on "Patent Assertion Entities in Europe."[18]

The European Commission report provides a European perspective on PAEs, which complements the FTC's study. In particular, it notes that "the legal fragmentation of patent protection" in Europe dis-incentivizes widespread PAE activity, but the imminent introduction of the Unitary Patent Court could increase assertion activity in the coming years.[19]

PAEs are businesses that acquire patents from third parties, and then try to make money by negotiating with, or suing, accused infringers. PAEs focus on accused infringers who are already on the market. This differs from technology transfer licensing which focuses on bringing

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[15] *Id*. at 3.

[16] U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS, PROMOTING INNOVATION AND COMPETITION 30 (2007) ("[L]iability for mere unconditional, unilateral refusals to license will not play a meaningful part in the interface between patent rights and antitrust protections."), www.usdoj.gov/atr/public/hearings/ip/222655.pdf

[17] FED. TRADE COMM'N, PATENT ASSERTION ENTITY ACTIVITY: AN FTC STUDY (2016), https://www.ftc.gov/system/files/documents/reports/patent-assertion-entity-activity-ftc-study/p131203_patent_assertion_entity_activity_an_ftc_study_0.pdf.

[18] Joint Research Ctr., Eur. Comm'n, JRC103321, Patent Assertion Entities in Europe (Nikolaus Thumm & Gary Gabison eds., 2016), http://publications.jrc.ec.europa.eu/repository/bitstream/JRC103321/jrc103321%20online%20version.pdf.

[19] *Id*. at 8.

new products to market. Because PAE activity focuses on post-development activity, it has raised policy questions about the role of PAEs in promoting innovation and economic growth.

The FTC has statutory authority to collect confidential business information and conduct industry studies.[20] We used this authority to study PAE acquisition, litigation, and licensing practices because more data on the non-public aspects of PAE activity enhances the quality of the policy dialogue.

While we had access to a significant volume of non-public information, we were unable to review the business practices of *all* PAEs. This is because, unlike other industries, the full universe of PAEs is not known. As a result, the report is a case study that focuses on the most economically important PAEs, as well as PAEs of various sizes. Overall, the FTC analyzed 22 PAEs, more than three-hundred asserting affiliates, and more than 2000 entities that held patents, but did not assert. Those Study PAEs accounted for over 75% of all U.S. patents that PAEs held at the end of 2013, and a substantial portion of PAE patent infringement litigation initiated during the study period.

So what did we learn? For me, the most interesting finding was that PAEs followed two distinctly different business models, focusing either on suing and settling quickly, or on negotiating licenses to large patent portfolios. There was surprisingly little crossover in the behavior of these two groups.

Portfolio PAEs were sophisticated firms that most closely resembled the licensing arms of large technology companies. They capitalized themselves through institutional investors, aggregated hundreds or thousands of patents, and typically negotiated licenses worth millions of dollars. Even though they represented only 9% of the licenses in the study, they generated four-fifths of the revenue—more than three billion dollars. Importantly, they hired specialized IP-

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[20] 15 U.S.C. § 46(b) (2012).

licensing professionals and typically negotiated licenses without first suing prospective licensees. On average, Portfolio PAEs acquired patents that were more than three years younger than patents acquired by Litigation PAEs.

Portfolio PAEs may engage in economic specialization that is potentially consistent with efficient aggregation. Because Portfolio PAE licenses overwhelming resulted from arms-length negotiations, it is plausible that the license value reflects the quality of the licensed patents. Through aggregation, Portfolio PAEs also may mitigate royalty-stacking effects associated with the disaggregation of complementary IP rights.

At the same time, the Commission did not conclude that Portfolio PAEs necessarily enhance social welfare. It is possible, for example, that Portfolio PAEs share little revenue with upstream inventors, many of their patents would not have been asserted but-for their accumulation, their licensees independently invented the claimed technologies, or that their IPR holdings are of poor quality. The FTC's report cannot categorically answer whether PAEs benefit innovation. Portfolio PAEs however, demonstrate complex business practices that could, under the right circumstances, serve a valuable function.

Litigation PAEs, by contrast, were not highly-capitalized. They typically relied on revenue-sharing to fund their activity, acquired small portfolios, and created subsidiaries to litigate this IP and hold it separate.

Infringement lawsuits played a key role in the viability and success of the Litigation PAE business model. More than ninety-percent of their licenses followed litigation, and these cases settled quickly. Parties typically settled for less than $300,000, an amount that defendants could expect to pay through initial discovery. Despite filing 96% of the lawsuits in the study and representing 91% of licenses, they accounted for only 20% of the reported revenue.

The PAE report is full of relevant findings unavailable in other studies, and unfortunately, I cannot address each of them in these remarks. A few conclusions, however, are worth noting for their contribution to larger policy discussions.

First, some have expressed concern with PAEs make money simply by sending thousands of demand letters to accused infringers. The FTC did not observe this behavior. As a result, demand letter reform, by itself, may not fully address PAE behavior. A company called MPHJ, whom the FTC sued for sending deceptive demand letters, may have been an outlier.

Second, PAEs focused overwhelmingly on acquiring and asserting information and communication technology patents. More than three-quarters of the more than 35,000 patents in the study were software-related. Still, PAE's asserted information and communication technology patents against parties in a wide-range of industries. As I will discuss in a minute, this "software-focus," and the associated complaints about patent quality, are addressed in part by recent Supreme Court precedent.

Third, while some have focused on potential harms arising from the assertion of FRAND-encumbered standard-essential patents, these SSO commitments did not appear to be a draw for PAEs. PAEs identified fewer than 1% of Study patents as FRAND encumbered. Finally, the evidence suggests that some PAEs target end users of technologies, rather than those that built the infringing devices.

Finally, the Commission compared PAE activity to the behavior of manufacturers and others in the wireless chipset market. It found that Litigation PAE behavior differed significantly from manufacturer behavior: Litigation PAEs almost always sued before licensing, while manufacturers went to court far less frequently. Manufacturers also licensed differently, with far more complicated contracts than Litigation PAEs.

I'll now turn to the FTC's recommendations growing out of the study. First, to be clear, infringement litigation plays an important role in protecting patent rights. The ability to sue others for copying your invention, among other things, is crucial to establishing the property boundaries necessary to promote innovation. At the same time, nuisance litigation, which relies on estimated costs and not the strength of the patent claims, can tax judicial resources and divert attention away from productive business behavior.

Accordingly, the report presents tailored recommendations to alleviate potential litigation abuses. For example, the report proposes case management practices that could mitigate litigation cost asymmetries between PAE plaintiffs and defendants. The report also recommends that Congress pass rules increasing transparency and encourage courts to stay litigation by PAEs against end users when parallel proceedings already are underway against the manufacturer. I support these proposals because they are narrowly-tailored to address observed behavior, without leading to unintended consequences well beyond PAE activity.

Some have questioned whether the FTC should have included any recommendations in its report. This position, however, does not fully account for the realities of Washington. There has been recurring interest in legislating changes in this area. It is thus important that the agency offer informed guidance to help ensure any changes have a positive impact in the IP marketplace.

Subsequent Developments

As we address intellectual property and competition policy, we should bear in mind how the legal environment has changed in recent years.

For example, in 2013, I forecasted that, to the extent there is a problem with PAEs, it is likely to be a function of patent quality, particularly with respect to software patents. The FTC's report is consistent with my hypothesis, given the prevalence of information and communication technology patents at issue and Litigation PAEs' apparent use of nuisance-value lawsuits to extract revenue.

In addressing next steps, however, we must consider the changing dynamics of patent law. Among the more than 37,000 patents in our sample, more than three-quarters contained software related claims. Still, our recommendations did not focus on specific claims, or art units.

This is in part, because the Supreme Court's 2014 decision in *Alice Corp. v. CLS Bank, International* has already had a significant impact on software patents, and its ramifications continue to play out.[21] As you know, *Alice* considered whether computer-implemented inventions are patentable. The Court held that an abstract idea does not become patentable simply because it is implemented on a "generic computer."[22]

With few exceptions, the Federal Circuit—the U.S. court of appeals dedicated to patent cases—has repeatedly relied on *Alice* to invalidate software-related claims directed at abstract concepts. A few weeks ago, on March 7, 2017, the court held that patents acquired by a large PAE, Intellectual Ventures, were impermissibly abstract without any "additional features," that would transform the idea into patentable subject matter.[23] Last year, in a similar case finding Intellectual Ventures' software IP invalid, Judge Mayer, in concurrence, wrote, "Software lies in the antechamber of patentable invention"[24] and concluded "claims directed to software implemented on a generic computer are categorically not eligible for patent."[25]

Other developments bear notice. Until the end of 2015, a patent holder could file a complaint in district court by making simple allegations regarding patent ownership and

[21] Alice Corp. v. CLS Bank Int'l, 134 S. Ct. 2347 (2014).
[22] *Id*. at 2358.
[23] Intellectual Ventures I LLC v. Capital One Financial Corp., 2017 WL 90031 at *1 (Fed. Cir. Mar. 7, 2017).
[24] Intellectual Ventures I LLC v. Symantec, Corp., 838 F.3d 1307, 1325 (Fed. Cir. 2016).
[25] *Id*. at 1322.

infringement. The patent holder did not need to identify any claims that were allegedly infringed, or list any accused products.[26] In December 2015, however, an amendment to the Federal Rules of Civil Procedure abolished this standard. Now, patent holders must follow the pleading standard articulated by the Supreme Court for all civil cases and plead factual allegations that make infringement "plausible."[27] Because Litigation PAEs generate licensing revenue primarily through litigation, raising the pleading standard can provide defendants with more notice to evaluate their alleged infringement and should influence a patent plaintiff's ability to bring nuisance suits successfully.

Also, the U.S. Supreme Court recently eliminated the laches defense for patent infringement suits brought within the six-year statutory limitation period.[28] Laches is an equitable remedy for prejudice caused by unreasonable delay in filing suit. Some commenters had argued that the laches defense was necessary to address litigation asymmetries caused by patent plaintiffs, particularly PAEs, who wait until a product is successful in the marketplace before filing suit.[29] The Court held, however, that applying an equitable remedy within a statutory limitations period specified by Congress would give judges a "legislation-overriding"

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[26] FED. R. CIV. P. 84, Form 18.
[27] Ashcroft v. Iqbal, 556 U.S. 662 (2009); Bell Atlantic Corp. v. Twombly, 550 U.S. 544 (2007). *See, e.g.,* e.Digital Corp. v. iBaby Labs, Inc., No. 15-cv-05790-JST, 2016 U.S. Dist. LEXIS 111689, at *5–9 (N.D. Cal. Aug. 22, 2016) (reviewing district court decisions since the abrogation of Form 18); Atlas IP LLC v. Pac. Gas & Elec. Co., No. 15-cv-05469-EDL, 2016 U.S. Dist. LEXIS 60211, at *15–17 (N.D. Cal. Mar. 9, 2016) (granting motion to dismiss with leave to amend, noting that "the disclosures required by the Patent Local Rules will soon provide more detailed notice"); Ruby Sands LLC v. Am. Nat'l Bank of Tex., No. 15-cv-01955-JRG, 2016 U.S. Dist. LEXIS 83897, at *15 (E.D. Tex. June 28, 2016) (granting motion to dismiss with prejudice, noting "a highly unusual case … with a serial litigant" who failed to plead plausible claims of direct infringement).
[28] SCA Hygiene Prods. Aktiebolag v. First Quality Baby Prods., LLC, 2017 WL 1050978 (Mar. 21, 2017).
[29] *See, e.g.*, Brief for Dell et al as Amici Curiae Supporting Respondents, SCA Hygiene Prods. Aktiebolag v. First Quality Baby Prods., LLC, 2017 WL 1050978 (Mar. 21, 2017); Brief for Roche Molecular Sys., Inc. as Amici Curiae Supporting Respondents, SCA Hygiene Prods. Aktiebolag v. First Quality Baby Prods., LLC, 2017 WL 1050978 (Mar. 21, 2017).

role that exceeds the judiciary's power.[30] In his dissent, Justice Breyer wrote that the majority "remains 'determined to stay the course and continue on, traveling even further away,' from Congress's efforts in the Patent Act, to promote the 'Progress of Science and useful Arts.'"[31]

Finally, the Supreme Court will soon issue its decision in *TC Heartland LLC v. Kraft Foods Group Brands LLC*, which addresses the proper venue provisions for patent cases.[32] Some commenters, including the former Chief Judge of the Federal Circuit, Paul Michel, have argued that the current venue provisions have led patent infringement suits to concentrate in a small handful of district courts, leading to "numerous practical negative consequences."[33] Judge Michel notes that, among other things, this concentration "prevents the Federal Circuit from receiving diverse views about how patent law should change to keep up with ever-changing technologies."[34] Notably, The FTC's PAE report supports the proposal that patent cases are concentrated among certain districts. 75% of reported cases were brought in either the Eastern District of Texas (53%) or the District of Delaware (22%).

Given the dynamic nature of patent law, I recommend asking U.S. policymakers two important questions before weighing in with policy solutions: (1) how are our colleagues in Congress, the courts, and the PTO addressing these proposed problems, and (2) what evidence supports our intervention? This is why I favor evidence-based reforms, like those proposed in the FTC's PAE report. Likewise, I support retaining flexibility—as we did in the revised IP

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[30] SCA Hygiene Prods., 2017 WL 1050978 at *5.
[31] *Id*. at *20 (quoting Mathis v. United States*,* 579 U.S. ___, ___, 136 S.Ct. 2243, 2271, 195 L.Ed.2d 604 (2016) (Alito, J., dissenting) and U.S. Const. Art. I, § 8, cl. 8.)).
[32] TC Heartland LLC v. Kraft Food Brands Grp. LLC, 137 S.Ct. 614 (2016) (granting certiorari to address whether the patent venue statute, 28 U.S.C. § 1400(b), is the sole and exclusive venue provision governing patent infringement litigation, or whether it is supplemented by the general venue statute, 28 U.S.C. § 1391).
[33] Brief for Paul R. Michel as Amicus Curiae Supporting Petitioner, TC Heartland LLC v. Kraft Food Brands Grp. LLC, 137 S.Ct. 614 (2016).
[34] *Id*. at 1.

Guidelines—when the available evidence does not support a radical shift in our antitrust analysis.

Thank you for inviting me to speak with you today.