

Antitrust and Anec-data

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Ten years after the introduction of competition law in China, the country's leading antitrust enforcers continue to establish their enforcement principles, and the State Council works to reconcile the agencies' draft antitrust-intellectual property ("IP") guidelines. At a time when fundamental policy decisions are being developed, this paper highlights the concerns of strict anti-injunction rules for standard-essential patents ("SEPs"), and defends the value of strong patent rights for an innovative economy. It questions criticisms that US antitrust enforcement is currently too lax in this regard, on the basis of the wide evidence available pointing towards the positive relationship between strong IP rights and innovation.

1. INTRODUCTION

It is an exciting time in the world of competition law and not least in China. The Chinese Ministry of Commerce ("MOFCOM"), the National Development and Reform Commission ("NDRC"), and the State Administration for Industry and Commerce ("SAIC") continue to develop their enforcement principles, the State Council is working to reconcile the agencies' draft antitrust-intellectual property ("IP") guidelines, and the ten-year anniversary of the Anti-Monopoly Law ("AML") is fast approaching. I continue to be impressed with the progress I see when meeting Chinese antitrust enforcers, policymakers, and academics, and appreciate the chance to continue our dialogue.

Last year in Beijing, I addressed the dangers of strict anti-injunction rules governing standard-essential patents ("SEPs").¹ Since then, I have argued for the value of strong patent rights for an innovative economy, questioned claims that the United States' ("US") antitrust enforcement is too lax, and published articles on evidence of the positive relationship between strong IP rights and innovation, and on the Federal Trade Commission's ("FTC") administrative litigation procedure as a tool for developing competition policy.² In this essay, I build on that work to address my continuing concern that theories, divorced from evidence, can skew antitrust enforcement.

* Acting Chairwoman, Federal Trade Commission. The views I express in this paper are mine alone and may not represent the views of the FTC or its other Commissioners.

¹ M.K. Ohlhausen, *Antitrust Oversight of Standard-Essential Patents: The Role of Injunctions*, 12 September 2015, available at https://www.ftc.gov/system/files/documents/public_statements/800951150912antitrustoversight-1.pdf.

² M.K. Ohlhausen, *The Case for a Strong Patent System*, 8 June 2016, available at <https://www.ftc.gov/public-statements/2016/06/case-strong-patent-system>; M.K. Ohlhausen, *Patent Rights in a Climate of Intellectual Property Rights Skepticism*, 30 HARV. J. L. & TECH. 1 (2016); M.K. Ohlhausen, *Does the US Economy Lack Competition?*, 1 CRITERION J. INNOVATION 47 (2016) <https://www.criterioninnovation.com/articles/ohlhausen-does-the-us-economy-lack-competition.pdf>; M.K. Ohlhausen, *The Elusive Role of Competition in the Standard-Setting Debate*, STAN. TECH. L. REV. (forthcoming 2017); M.K. Ohlhausen, *Administrative Litigation at the FTC*, 12 J. COMPETITION L. & ECON. 4 (2016).

2. ASSESSING PRO- AND ANTI- COMPETITIVE EFFECTS THROUGH EMPIRICS NOT ANECDOTES

2.1 EMPIRICS VS. ANECDOTES OVERVIEW

One of my central philosophies as a government official is regulatory humility, which flow from the information problem that all government actors face.³ As Friedrich Hayek famously observed, resolving public-policy issues often requires information that is held by private economic actors.⁴

We often encounter such difficulties in antitrust policy. Other than in easy cases—like hardcore cartels or mergers to monopoly—we must assess competitive effects. Sometimes, that entails a retrospective examination, such as when enforcers review a consummated acquisition.⁵ More often, though, we need to evaluate the effects of conduct which has not run its course. In those cases, we need to predict the future based on a limited evidentiary record. Many commercial practices limit competition in one respect, but increase it elsewhere by promoting investment, or achieving efficiencies. Error risks are important, which warrants caution in how we intervene.⁶ We also need the best tools available for distinguishing pro- and anti-competitive practices.

That brings me to a core point: the best tool is empirics. By discovering the facts we can better discern the right outcome. We should be careful not to confuse anecdotes with facts, creating what I like to call “anec-data.” One sparrow does not make a spring, and a few complaints or concerns about market behavior do not make a competition case. We need careful factual inquiry to make good competition decisions. But when we cannot directly observe (or quantify) a practice’s net impact, theory comes into play. We need a coherent set of principles with which to predict future effects and gauge the competitive implications of business conduct.

Theories have always played a central role in antitrust policy, though they have, of course, evolved over time.⁷ Our goal as enforcers is to develop theories that correctly predict the market effects of conduct under review. Antitrust theories must remain grounded in factual realities. If a theory becomes untethered from real-world validation, it risks becoming dogma. This is not an academic concern. It is all too easy to become enamored with the intellectual appeal of a clever theory. Sometimes a model can produce a narrative so

³ M.K. Ohlhausen, *Regulatory Humility in Practice*, 1 April 2015, available at https://www.ftc.gov/system/files/documents/public_statements/6358_1/150401aeihumilitypractice.pdf.

⁴ *Id.* at 3–4.

⁵ See, e.g., *In re Evanston Nw. Healthcare Corp.*, FTC Dkt. No. 9315, 28 April 2008, available at <https://www.ftc.gov/sites/default/files/documents/cases/2007/08/070806opinion.pdf>

⁶ For the classic article on this point, see F.H. Easterbrook, *The Limits of Antitrust*, 63 TEXAS L. REV 1 (1984).

⁷ W.E. Kovacic and C. Shapiro, *Antitrust Policy: A Century of Economic and Legal Thinking*, 14 J. OF ECON. PERSPECTIVES 43 (2000).

convincing that its adherents treat its predictions as truths that need not be verified. That risk is the focus of this short article.

2.2 EXAMPLES OF THEORIES WITHOUT EVIDENCE

2.2.1 Standard-essential patents and ‘hold-up’ theory

I believe that, in some recent actions, antitrust enforcers have embraced theory without solid evidence. In certain instances, competition agencies embarked on hasty interventions to solve a theorized problem. Two examples stand out.

First, competition agencies around the world have taken aggressive enforcement actions to prevent owners of standard-essential patents (“SEPs”) from excluding technology users in potential violation of RAND-licensing commitments.⁸ They have done so under the rubric of hold-up theory that has yet to be substantiated in any of the industries said to suffer from opportunistic patent assertion.⁹ Second, under a drumbeat of concern, policymakers have rushed to condemn patent-assertion entities based—again—on theorized harm.¹⁰

Ultimately, the goal for applied antitrust should be to distinguish anticompetitive business conduct from practices that promote, or do not affect, competition. To accomplish that goal, theories must remain grounded in fact.

In my view, enforcers have sometimes improperly decoupled theory and empirical validation. I will provide two examples, both of which flow from the theory of hold-up; which posits that patent owners will behave opportunistically. That they will wait for third parties to implement an infringing technology before demanding royalties exceeding what the parties would have agreed upon *ex ante*.¹¹ And because it is expensive for a technology user to abandon a technology, it may pay a sum reflecting not merely the merits of the claimed technology, but the cost of redesigning its goods.

A related theory known as royalty stacking predicts that, if a marketed good contains many proprietary technologies that are diffusely owned, the total royalty burden will exceed what

⁸ See, e.g., *In re Google Inc.*, FTC File No. 121-012, Statement of the Federal Trade Comm’n, 3 January 2013, available at <https://www.ftc.gov/enforcement/cases-proceedings/1210120/motorola-mobility-llc-google-inc-matter>; *In re Robert Bosch GmbH*, FTC File No. 121-0081, Statement of the Fed. Trade Comm’n, 24 April 2013, available at <https://www.ftc.gov/enforcement/cases-proceedings/1210081/bosch-robert-bosch-gmbh>; European Comm’n, Case AT.39939—*Samsung*—(29 April 2014) Enforcement of UMTS Standard Essential Patents; European Comm’n, Case AT.39985—*Motorola*—(29 April 2014) Enforcement of GPRS Standard Essential Patents.

⁹ For an example of my argument why claims of hold-up lack an empirical foundation, see *Certain 3G Mobile Handsets & Components Thereof*, Reply Submission on the Public Interest of Federal Trade Commissioners Maureen K. Ohlhausen & Joshua D. Wright, at 3 n.2 (20 July 2015), <https://www.ftc.gov/public-statements/2015/07/reply-submission-public-interest-federal-trade-commissioners-maureen-k>.

¹⁰ See M. K. Ohlhausen, *The FTC Patent Study in Context*, at 8–9, 20 October 2016, available at <https://www.ftc.gov/public-statements/2016/10/prepared-remarks-commissioner-maureen-k-ohlhausen-ftc-pae-study-context>.

¹¹ See FED. TRADE COMM’N, *THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION* 5 (2011).

a single firm owning all the infringed patents would charge.¹² Some scholars argue that hold-up may be especially pronounced when combined with a royalty-stacking problem.¹³

Hold-up theory only works if the patentee can credibly threaten to extract from an accused infringer an expected cost exceeding the *ex ante*, benchmark royalty. This reflects the basic insight that parties bargain in the shadow of law. So, if the courts (on average), award a reasonable royalty equal to the *ex ante* value, hold-up would be impossible, assuming symmetric litigation costs and appetite for risk. The principal way by which a patentee may carry out hold-up, however, is by getting an injunction. That order, of course, subjects an accused infringer to the full cost of redesigning its infringing product. Facing such an order, a technology user would rationally pay an amount up to the full redesign cost to avoid shut-down. That is the theory. But it is a theory that some antitrust enforcers have accepted as reality without empirical validation or substantiation in their interventions against owners of standard-essential patents who seek injunctions. Much attention has focused on the lucrative and standards-dependent smartphone industry, where there has been recurring concern that conditions are ripe for hold-up. Hundreds of thousands of patents, for instance, potentially relate to telecommunications standards, while manufacturers invest huge sums in implementing next-generation mobile devices.¹⁴ Theoretically, at least, a patent owner could sit on its technology, wait for industry to adopt an infringing standard, and then demand royalties exceeding the *ex ante* level.

I agree that hold-up could possibly materialize in real-life markets and that the courts and agencies should consider that risk in fashioning relief for patent infringement.¹⁵ To date, evidence of actual hold-up is exceedingly slim, especially in US markets.¹⁶ That is no surprise. Since the Supreme Court's 2006 decision in *eBay*, injunctions are increasingly rare and especially so for standard-essential patents whose owners have promised to license on reasonable and non-discriminatory terms.¹⁷ Today, a court would likely issue an injunction for infringement of a RAND-encumbered SEP only if the infringer had strategically delayed

¹² M.A. Lemley & C. Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX L. REV. 1991, 1993 (2007).

¹³ *See id.*

¹⁴ *See, e.g.*, RPX Corp., (11 April 2011) Amd. No. 3 to Form S-1, 59; FTC, *The Evolving IP Marketplace*, *supra*, at 221; Lemley & Shapiro, *supra* note 12, at 1992.

¹⁵ *See In re Certain Wireless Comm'n's Devices*, Inv. No. 337-TA-745 (6 June 2012) Third-Party US Fed. Trade Comm'n, Statement on the Public Interest.

¹⁶ *See* A. Galetovic, S. Haber, & R. Levine, *An Empirical Examination of Patent Holdup*, 11 J. COMPETITION L. & ECON. 1 (2015); G. Sidak, *The Antitrust Division's Devaluation of Standard-Essential Patents*, 104 GEORGETOWN L. J. ONLINE 48, 61 (collecting studies at note 49) (2015) ("By early 2015, more than two dozen economists and lawyers had disapproved or disputed the numerous assumptions and predictions of the patent holdup and royalty stacking conjectures."), <https://www.criterioneconomics.com/docs/antitrust-divisions-devaluation-of-standard-essentialpatents.pdf>; ANNE LAYNE-FARRAR, PATENT HOLDUP AND ROYALTY STACKING: WHERE DO WE STAND AFTER 15 YEARS OF HISTORY? (2014), <http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/WD%282014%2984&doclanguage=en> (surveying the economic literature and concluding that the empirical studies conducted thus far have not shown that holdup is a common problem); D.H. Ginsburg, K.W. Wong-Ervin, & J.D. Wright, *The Troubling Use of Antitrust to Regulate FRAND Licensing* 10 COMPETITION POL'Y INT'L ANTITRUST CHRON., 2, 4-5 (15 October 2015).

¹⁷ C.B. Seaman, *Permanent Injunctions in Patent Litigation After eBay: An Empirical Study*, 101 IOWA L. REV. 1949 (2016).

to avoid good-faith licensing negotiations and to suppress royalty rates below their *ex ante* level. Absent such opportunistic conduct on the buying side of the market, injunctions are largely off the table for RAND-limited SEPs. Without that weapon, it is not evident that patentees can credibly hold-up standard implementers.

One possible, albeit less severe, form of hold-up could nevertheless occur if courts systematically inflate royalty rewards *ex post*. However, recent Federal Circuit decisions make that situation unlikely. The court has held that a reasonable royalty for infringement of a SEP—whether RAND-encumbered or not—excludes any value caused merely by the patent’s inclusion in the standard.¹⁸ In other words, lock-in value is not a proper component of the royalty calculation. Furthermore, the Federal Circuit has guarded against possible juror overestimation of royalties by forbidding use of the entire-market-value rule when the infringed technology is not the basis for consumer demand.¹⁹

Other than a decision of the International Trade Commission (“ITC”) awarding an exclusion order against Apple—which the ITC issued following a careful, factual assessment of the public-interest factors under Section 337 and which the US Trade Representative subsequently vetoed—I know of no US injunction entered to prohibit infringement of a RAND-encumbered SEP.²⁰ Nor have I seen any evidence that a product has been excluded from the US market. Last, but not least, the markets said to suffer from hold-up are flourishing producing countless new products and technologies under fierce competition.²¹

The FTC has intervened, however, to prevent the possibility of hold-up, without asking whether the theory meets fact. That is problematic because evidence-free enforcement risks unintended consequences. That shortcoming is all the more pronounced because the FTC has recently focused on challenging broken RAND licensing promises—*i.e.*, theorized hold-up in breach of contract—rather than antitrust violations like deceiving an SSO to induce it to adopt a proprietary technology over substitutes that the SSO would otherwise have chosen.

2.2.2 Patent-assertion entities

The second example where policy proposals have relied on theory with little evidentiary basis involves patent-assertion entities (“PAEs”). PAEs are non-practicing firm that aggregate patents through market acquisitions and license them on threat of suit. The argument against PAEs is that they engage in targeted hold-up by purchasing patents covering lucrative products that are already on sale. Because accused infringers cannot cheaply redesign their products *ex post*, the concern is that PAEs extract sums exceeding what they could have obtained via *ex ante* technology transfer.

But there is an alternative theory that is more favorable to the PAE business model. Specifically, in aggregating complementary patents, PAEs may reduce royalty stacking and also remedy a market failure by connecting downstream technology users to upstream

¹⁸ CSIRO v. Cisco, 809 F.3d 1295 (Fed. Cir. 2015).

¹⁹ Ericsson, Inc v. D-Link Sys, Inc, 773 F.3d 1201 (Fed. Cir. 2014).

²⁰ Letter fr. US Trade Representative to Int’l Trade Comm’n re: Disapproval of the US International Trade Commission’s Determination, 3 August 2013, available at https://ustr.gov/sites/default/files/0803201320Letter_1.PDF.

²¹ See Ohlhausen & Wright, *supra* note 9; see also Galetovic *et al.*, *supra* note 16.

inventors, ultimately creating a market for patents that would not otherwise exist. The result could be enhanced incentives to invent patentable technologies.

However, the hold-up narrative became the dominant one. Policymakers soon viewed that theoretical concern as established fact. In 2013, former President Obama condemned PAEs, saying that they “hijack somebody else’s idea and see if they can extort some money out of them.”²² Op-eds and law reviews featured claims that PAEs harm innovation and must be stopped. Congress responded with draft bills that would have significantly altered rights for all patent holders.²³

In a speech in late 2013, I urged caution and advocated for empirical work on PAEs before passing legislation that could materially affect the value of all patents, whether or not owned by PAEs.²⁴ I am proud that the FTC recently finished a comprehensive study of 22 PAEs and over 2,500 related entities. While I lack the space here to discuss the report’s findings in detail, the distinction between two kinds of entities—Portfolio PAEs and Litigation PAEs—was especially interesting.²⁵ The study found that Litigation PAEs’ conduct was consistent with nuisance litigation, raising the prospect that modest, incremental policy changes to the litigation process could have benefits.²⁶

By contrast, the conduct of Portfolio PAEs was consistent with a legitimate aggregation service.²⁷ Such PAEs generally licensed without first suing, employed sophisticated IP professionals to negotiate deals, and agreed upon royalties that exceed the cost of litigation.²⁸ All of which suggests that Portfolio PAEs might be an efficient way to facilitate licensing on the merits.²⁹

2.2.3 FTC’s position regarding PAEs

The FTC’s finding should not mark the end of empirical work surrounding PAEs. But they are an important milestone in grounding expansive theories in real-world data. As the FTC’s modest proposals for reform suggest, the evidence to date does not warrant major legislation, such as mandatory cost-shifting in patent cases. This example shows the benefit of empirical testing. Whether one builds a theory inductively from market observations, or reasons deductively to a model whose predictions one then tests, empirics remain indispensable.

²² President Obama Participates in a Fireside Hangout on Google+, YouTube (14 February, 2013) https://www.youtube.com/watch?v=kp_zigxMS-Y.

²³ M.K. Ohlhausen, *A Pragmatist’s Approach to Navigating the Intersection of IP and Antitrust*, at 18–20 (4 December 2013) <https://www.ftc.gov/public-statements/2013/12/pragmatists-approach-navigating-intersection-ip-antitrust>.

²⁴ *Id.*

²⁵ FED. TRADE COMM’N, *PATENT ASSERTION ENTITY ACTIVITY: AN FTC STUDY* (2016), available at https://www.ftc.gov/system/files/documents/reports/patent-assertion-entity-activity-ftc-study/p131203_patent_assertion_entity_activity_an_ftc_study_0.pdf.

²⁶ *Id.* at 43, 47–53.

²⁷ Ohlhausen, *supra* note 10.

²⁸ *Id.* See also *FTC PAE Study*, *supra* note 25, at 46–47, 91–92.

²⁹ Ohlhausen, *supra* note 10.

2.3 ANALYSING REMEDIES IN THE REALM OF EMPIRICS AND THEORY

I finish with one last example of the relationship between empiricism and theory. Remedies are a critical part of the agencies' toolkit. As we know, some otherwise-efficient mergers create problematic horizontal overlaps in some relevant antitrust markets. Based on the theory that divesting one side of the overlapping business to a suitable buyer should maintain the pre-merger level of competition, the FTC and Department of Justice ("DOJ") often use divestitures in consents to resolve competitive issues. The premise behind the remedy, however, requires empirical substantiation. Of course, that does not mean that all empirical work is accurate or that a single study tells the whole story. In 2014, for instance, Professor Kwoka argued that the agencies' use of divestitures had failed to protect competition.³⁰ That work attracted much attention, but it appears to suffer from significant deficiencies³¹

Nevertheless, the FTC is committed to testing its theoretical predictions, which is why it undertook to study all of its remedial orders between 2006 and 2012, variously using a case-study method, questionnaires, and data.³² The study's examination of these eighty-nine remedies showed that the FTC's remedies work well in most cases but also identify imperfections in the remedy process.

Three findings of the study warrant particular attention. First, every divestiture of an ongoing business successfully maintained competition at the pre-merger level or returned it to that point.³³ Second, although only a few vertical mergers featured in the study, all remedies in those matters succeeded.³⁴ Third, it wasn't a perfect success story. The study reveals that divestitures of limited asset packages were less successful; nevertheless they restored or maintained competition in roughly seventy percent of cases.³⁵ This information is very valuable as the Commission and staff use these findings to guide future remedies, most notably reviewing proposed divestitures of partial asset packages even more closely, and addressing the process challenges that at times created obstacles or issues that buyers of divested assets had to overcome. The Commission's studies have been invaluable in guiding the agency's work, and signal the right way forward for all antitrust agencies: test your suppositions.

³⁰ J. KWOKA, *MERGERS, MERGER CONTROL, AND REMEDIES: A RETROSPECTIVE ANALYSIS OF US POLICY* (MIT Press 2014).

³¹ See Edith Ramirez, Keynote Remarks at Tenth Ann. Global Antitrust Symposium, Georgetown Univ. Law Center, 20 September 2016, at 9, *available at* <https://www.ftc.gov/public-statements/2016/09/keynote-remarks-ftc-chairwoman-edith-ramirez>; M. Vita and F.D. Osinski, *J. Kwoka's Mergers, Merger Control, and Remedies: A Critical Review* (21 December 2016). *Available at* SSRN: <https://ssrn.com/abstract=2888485>

³² FED. TRADE COMM'N, *REMEDY STUDY*, *available at* <https://www.ftc.gov/policy/studies/remedy-study>. FED. TRADE COMM'N, *THE FTC'S MERGER REMEDIES 2006–2012: A REPORT OF THE BUREAU OF COMPETITION AND ECONOMICS* (2017), *available at* <https://www.ftc.gov/reports/ftcs-merger-remedies-2006-2012-report-bureaus-competition-economics>.

³³ *Id.*

³⁴ *Id.* at 2.

³⁵ *Id.* at 1–2.

3. CONCLUSION

We antitrust enforcers must ask hard questions. We need to remember that theories exist to predict the future but do not control in the few cases where we can observe the relevant competitive effects. In other matters, we employ theories as part of our methodological toolkit to understand the likely impact of a challenged restraint, practice, or merger. But while those theories are the product of sophisticated thinking, their ultimate litmus test lies in the accuracy of their predictions. Sometimes, policymakers have a propensity to accept theoretical claims of harm without an evidentiary basis. As we work through our various antitrust guidelines, publish guidance documents, and analyze competitive effects in real cases, we should be mindful of that risk.