

Antitrust Chronicle

APRIL · VOLUME 1 · SPRING 2017



**AT THE CROSSROADS
- IP & ANTITRUST**

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LETTER FROM THE EDITOR

Dear Readers,

With the arrival of spring, we are proud to offer our subscribers the CPI Antitrust Chronicle for April: **At the Crossroads – IP & Antitrust**.

This edition is published as a follow-up to the LeadersHIP Conference, cosponsored by CPI, which was held in Washington D.C. on March 27, 2017. LeadersHIP brought together a broad network of experts, thought leaders, and policymakers with diverse viewpoints. The conference advanced the IP and competition policy discussion and debate. Presentation and discussion topics at LeadersHIP included potential priorities and new paradigms for Antitrust in the new administration, new patent legislation, standard setting organizations' IP policies, various national antitrust guidelines for licensing of IP, and due process and comity principles in antitrust enforcement.

In the process of taking stock of the American and international IP systems and their enforcement, where do we stand? Conflict, consistency or somewhere in between? Is some "regulatory humility" in order, or is it time to forge ahead?

In our CPI Talks section, we hear from Acting FTC Chairman Maureen Ohlhausen and get her thoughts on evolving issues at the crossroads of IP and antitrust law among other things. A must-read interview!

Thank you to our great panel of authors.

We hope you enjoy reading our special April edition of the CPI Antitrust Chronicle.

Sincerely,

CPI Team

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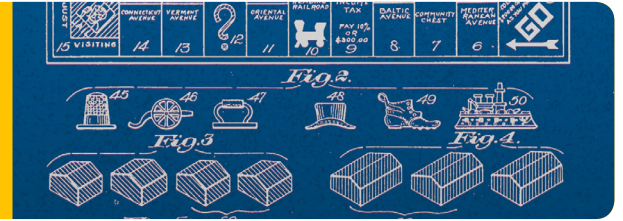


The Need For “Innovation Certainty” At The Crossroads Of Patent And Antitrust Law

By Paul R. Michel & Matthew J. Dowd

Due to a parade of legislation, judicial interpretations, and administrative application during the past decade, the combination of patent law destabilization and antitrust law uncertainty has devastated innovation certainty in the United States. We are now seeing the manifestations of diminished innovation certainty - or perhaps it is now better termed “innovation uncertainty.” There is an unreasonable unwillingness to license intellectual property, even when there is no question of infringement. The U.S. patent system is no longer considered the gold standard. In 2017, it fell from No. 1 to No. 10 in the annual U.S. Chamber of Commerce global ranking of patent systems. All of this, as well as pending Supreme Court patent cases, and yet there are continued calls for so-called patent “reform” legislation.

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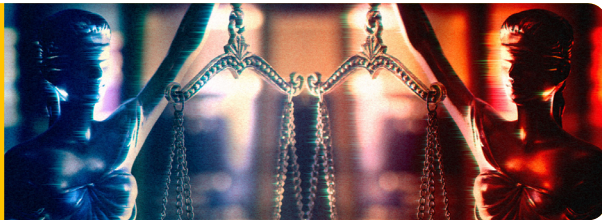


On Patent “Monopolies”: An Economic Re-Appraisal

By David J. Teece & Edward F. Sherry

In exchange for public disclosure, the patent system gives a successful patent applicant the right to exclude others from using the patented technology without permission for a period of time (in the U.S., currently 20 years from application). A series of older cases refer to this exclusivity as a “patent monopoly.” The questions we address in the current article are: to what extent is the “patent monopoly” language useful? To what extent is it misleading? What are its virtues and limitations?

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A Comparative And Economic Analysis Of The U.S. FTC’s Complaint And The Korea FTC’s Decision Against Qualcomm

By Koren W. Wong-Ervin, Douglas H. Ginsburg, Anne Layne-Farrar, Scott Robins & Ariel Slonim

On January 17, 2017, the U.S. FTC filed a lawsuit against Qualcomm based on a “monopoly broth” or course of conduct theory for alleged monopoly maintenance in certain narrowly defined baseband processor markets. In a jurisdiction on the other side of the globe, the KFTC issued an administrative decision against Qualcomm on December 28, 2016, concluding that the company employed an “unfair business model” with respect to the licensing of its 2G, 3G, and 4G standard-essential patents and the sale of its baseband processors. This article provides a legal and economic comparative analysis of the FTC’s complaint and the KFTC’s decision, highlighting the fundamental differences between the two and setting forth some of the main economic and legal problems with each regime.

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Investigating Competition Cases In Taiwan: The Inquisitorial Principle And The Abuse Of Superior Bargaining Position

By Andy C. M. Chen

The value gained from implementing IPRs created by innovations or implementing those IPRs in collaboration with the IPRs licensed by innovators from other countries has significantly contributed to the economic development of Taiwan. However, the heavy reliance on IPRs has at the same time rendered Taiwan susceptible to IP arrangements that can evoke disputes over their competitive impacts on various markets. This paper describes two major differences and re-examines their implications for reviewing IPR cases under competition law in Taiwan: procedural rules for administrative investigations founded upon the inquisitorial principle, and the theory of superior bargaining position rooted in the concept of addressing unequal bargaining power in business transactions.

SUMMARIES

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Measuring The Impact Of Injunctive Relief On Innovation

By John M. Taladay

This article considers the impact of injunctions, or more specifically the lack of the availability of an injunction, on an innovator's investment decisions. It concludes that: (1) it is possible to measure the impact that a "no injunction" in patent infringement actions will have on innovation investment, and that (2) such a policy will necessarily reduce investment in innovation. The reduction in investment is caused by the delay in receipt of licensing revenues that will result from eliminating the potential for injunctions, because this delay will negatively affect the inventor's expected return on investment. The article also considers whether potential awards of interest in patent infringement actions, as an alternative to potential injunctions, will offset this effect and concludes that interest awards are inadequate to eliminate the reduced incentive to invest in innovation.

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The Smallest Salable Patent-Practicing Unit Experiment, General Purpose Technologies And The Coase Theorem

By Nicolas Petit

In the past years, some Standard-Setting Organizations active in wireless communications have experimented new technology pricing principles which upset this basic economic wisdom. One of those changes is the "SSPPU" experiment. SSPPU wants to prevent upstream technology developers to claim all or a share of the value added to the end product sold by original equipment manufacturers on downstream markets. This practice has received wide media coverage in the smartphone industry. Some authors have claimed that this creates a problem of "royalty stacking." At the end of the line, royalty stacking is said to decrease innovation to the detriment of society at large. SSPPU pricing has some appeal. But on second thoughts, its implications are so likely counterproductive that it should remain what it is, an experiment.

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In Search of a Problem: The Interface of Car Body Part Design Protection with Antitrust

By Nuno Pires de Carvalho

The interface of intellectual property with antitrust has many facets, and one that has surfaced in recent years is the acquisition of market power by the owners of designs as regards car body parts. Such power results from the lock-in of car buyers who need to have their cars repaired after an accident, to whom the costs of changing the model is higher than paying the price for spare parts as high as their makers may decide. Enforcing design rights against independent makers and/or importers of car body parts on the aftermarket hurts competition and consumers, and naturally gives rise to an antitrust concern. This is how, in a nutshell, the problem is enunciated.

ANNOUNCEMENTS

REACHING OUT IN 2017

CPI wants to hear from you, our subscribers. In the coming months of 2017, we will be reaching out to members of our community for your feedback and ideas. Let us know what you want (or don't want) to see, at: antitrustchronicle@competitionpolicyinternational.com.

CPI ANTITRUST CHRONICLE JUNE & JULY 2017

The June 2017 Antitrust Chronicle will address issues related to **Index Funds, Institutional Investors and Antitrust**. Can common ownership potentially generate substantial competitive harm?

As a reminder to potential authors, our tentative topic for the July 2017 Antitrust Chronicle is **Healthcare Mergers, a Post-Mortem**.

Contributions to the Antitrust Chronicle are about 2,500 – 4,000 words long. They should be lightly cited (follow bluebook style for footnotes) and not be written as long ponderous law-review articles with many in-depth footnotes. As with all CPI publications, articles for the CPI Antitrust Chronicle should be written clearly and with the reader always in mind.

Interested authors should send their contributions for the July edition by June 20, 2017 to Sam Sadden (ssadden@competitionpolicyinternational.com) with the subject line "Antitrust Chronicle," a short bio and picture(s) of the author(s).

The CPI Editorial Team will evaluate all submissions and will publish the best papers. Authors can submit papers in any topic related to competition and regulation, however, for the April and May issues, priority will be given to articles addressing the above mentioned topic. Co-authors are always welcome.

WHAT'S NEXT?

This section is dedicated to those who want to know what CPI is preparing for the next month. Spoiler alert!

We look forward to bringing our subscribers the May Antitrust Chronicle of 2017 which will address issues in **Antitrust and the Algorithm Driven Economy**. This issue will cover a topic that has been on the tip of many regulators' tongues. Pricing algorithms are increasingly changing the competitive landscape in the digital markets. What antitrust liability, if any, can be imposed on the creators and users of algorithms?





WITH ACTING FTC CHAIRMAN MAUREEN OHLHAUSEN¹

Thank you, Acting Chairman Ohlhausen, for granting this interview to CPI.

1. As you see it, what are some of the most important evolving issues at the crossroads of IP and Antitrust law and policy today?

Innovation is a critical input to a successful economy. IP law promotes innovation by establishing enforceable rights for creators and visionaries, whether they develop new and useful products, more efficient product improvements or, in the case of copyright, original works of expression. Without IP protection, imitators could freely copy the work of others. This copying would reduce the incentives to innovate or invest in research and development, ultimately depriving consumers of the benefits of better goods.² Competition law likewise promotes innovation, by driving firms to produce new or improved products or services, with an eye towards entering a market, or improving a market position.

IP and antitrust law promote innovation most effectively when one does not undermine the effectiveness of the other. Antitrust enforcement must recognize the incentives to innovate created by the patent system. We cannot condemn efficient, legitimate, uses of patent rights because, in the end, this behavior is short-sighted. While everyone might like to get today's innovations at a lower cost, abridging patent rights through the antitrust laws will discourage the future investments needed to create tomorrow's advancements. At the same time, invalid or overbroad patents discourage follow-on innovation, prevent competition and raise prices through unnecessary licensing and litigation. Opaque patent notice and over- or under-compensation for infringing valid IP rights can likewise upset the balance of the IP marketplace.

As Acting Chairman, I will direct the FTC to engage with the intersection of IP and antitrust law in two ways. First, we should use our advocacy and policy tools to promote a functional IP marketplace. This is one where patent boundaries provide clear notice to all marketplace participants on issues of infringement and validity, and where patent remedies reproduce the compensation that a free market would have awarded, absent infringement. Second, we should use our enforcement authority to take a "sensible and balanced" approach to IP rights as facts and evidence dictate.

Below, I discuss each of these tools in more detail. In particular, I explain how the FTC's recent PAE report demonstrates my commitment to using evidence based analysis in the Commission's advocacy efforts in the IP space. I likewise explain how the Commission's revised IP Guidelines represent a functional and utilitarian approach to evaluating antitrust questions that arise in the context of IP licensing.

Finally, we do not operate in a vacuum. IP and antitrust law are dynamic regimes. The FTC must take account of how others — courts, the ITC and the USPTO, among others — are changing intellectual property law.

¹ The views expressed in these remarks are my own and do not necessarily reflect the views of the Federal Trade Commission or any other Commissioner.

² 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. 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. On January 13, 2017, the FTC and DoJ issued updated Antitrust Guidelines for the Licensing of Intellectual Property What are some of the key updates in the Guidelines and in what ways do they reinforce themes from the 1995 Guidelines?

The agencies' Antitrust Guidelines for the Licensing of Intellectual Property³ state our enforcement policy with respect to the licensing of intellectual property. As you note, this is the agencies' first update since the Guidelines issued in 1995.

IP licensing generally is procompetitive. Antitrust enforcers have a role to play, however, in protecting against competitive abuses. I have expressed concern when some overseas enforcers use their antitrust laws to dilute IP rights. This behavior inappropriately converts antitrust law into a tool for price regulation. It likewise creates harmful disincentives because it disrupts the complementary roles that antitrust and intellectual property law play in promoting innovation. Consequently, I have long favored an evidence-based approach towards evaluating potential IP abuses in the antitrust space.

The 2017 Guidelines, like the 1995 Guidelines before them, exemplify my evidence-based approach to the complex issues at the intersection of antitrust and intellectual property. In particular, they offer the following useful guideposts.

First, the Guidelines represent a modest update, embracing principles of commendable flexibility. Some commenters recommended that the agencies create new, specialized, guidelines to address FRAND-encumbered SEP, PAE or pay-for-delay issues. I opposed this suggestion. As I have said before, "IP issues are not a special case that requires a different competition jurisprudence."⁴ We should not establish new standards absent compelling evidence to do so.

Second, the Guidelines continue to affirm that IP laws grant "enforceable rights," which have social value.⁵ 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."⁶

Third, the Guidelines state that "antitrust laws generally do not impose liability upon a firm for a unilateral refusal to assist its competitors."⁷ 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,"⁸ it is clear that the Guidelines will continue to protect strong IP rights in the United States.

3 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].

4 ABA Section of Antitrust Law's Intellectual Property Committee, *Interview of Commissioner Ohlhausen*, PUBLIC DOMAIN 11-12 (Feb. 2016).

5 *Id.* at 1-2.

6 *Id.* at 2.

7 *Id.* at 3.

8 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.

3. Today, intellectual property is, in many ways, international in scope. In the patent context, this globalization has arisen with a recent focus on the extraterritorial reach of patent remedies. Does the FTC have a position about this or a specific outlook for antitrust's reach for global markets in the near future?

International antitrust issues continue to be dynamic and fast-paced. In the past twenty-five years, the number of jurisdictions with competition laws has grown from a few dozen to more than 120. Competition, economic and political standards within these jurisdictions are diverse. Intellectual property law regimes likewise vary, sometimes broadly, across the globe.

Although governmental structures are national, companies commonly operate on a global scale. Trade — and the intellectual property licenses often necessary to facilitate that trade — frequently cross many borders. Within this worldwide arena, the FTC increasingly engages with our global antitrust colleagues to promote sound antitrust principles and practices. Global consumers and economies benefit from coherent and effective competition laws. Predictable enforcement also lowers unnecessary costs and improves results for consumers.

Turning from advocacy to enforcement, U.S. antitrust law — specifically the Foreign Trade Antitrust Improvements Act (“FTAIA”) — recognizes that domestic agencies and courts can assert antitrust jurisdiction over behavior occurring outside of the United States when there are “direct, substantial, and reasonably foreseeable effects,” on U.S. domestic commerce, U.S. import commerce, or the export commerce of a U.S. exporter.⁹ In January, the FTC and DOJ issued revised “Antitrust Guidelines for International Enforcement and Cooperation,”¹⁰ which address the agencies’ approach to the FTAIA. The International Guidelines state that, “Whether an alleged effect on such commerce is direct, substantial, and reasonably foreseeable is a question of fact.”¹¹ These Guidelines, and their balanced standards, apply to all extraterritorial conduct, which includes behavior at the intersection of antitrust and intellectual property. Going forward, the FTC will continue to promote convergence toward sound, economics-based competition policy and enforcement. We will keep building and maintain strong bilateral relations with foreign competition agencies, participating in multilateral organizations, such as ICN and the OECD, and facilitating dialogue on these important issues. Because intellectual property questions raise cross-agency issues within the United States, we will work with our U.S. government colleagues to promulgate consistent competition enforcement policies throughout the world.

4. In a recent paper, you wrote that the patent system is the object of unprecedented criticism and that the world of fast changing technologies distresses a one-size-fits-all patent system. Could you elaborate? Is additional patent reform necessary?

I have consistently advocated for the rights of legitimate inventors to monetize their innovations, cautioned against undermining IP rights, and sought targeted responses to problems within the contemporary patent system.¹² My most recent article, in the *Harvard Journal of Law & Technology*, explores the empirical and theoretical literature on the relationship between patents and innovation.¹³ I posit that the most beneficial patent policy cannot overlook the strong theoretical or evidentiary justifications for property rights, especially in technology sectors. This does not mean that granting ever-stronger patent protection will inevitably lead to greater innovation. Limited patent reform may be appropriate to address identified problems such as insufficient quality control, the broad scope of certain method patents and inadequate disclosure.

9 15 U.S.C. § 6a (2012).

10 U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, ANTITRUST GUIDELINES FOR INTERNATIONAL ENFORCEMENT AND COOPERATION (2017), https://www.ftc.gov/system/files/documents/public_statements/1049863/international_guidelines_2017.pdf.

11 *Id.* at 21.

12 See, e.g. Maureen K. Ohlhausen & Joshua D. Wright, *Reply Submission on the Public Interest — In re Certain 3G Mobile Handsets & Components Thereof*, U.S. Int’l Trade Comm’n (July 20, 2015) [hereinafter *Reply Submission*]; Maureen K. Ohlhausen, Commissioner, Fed. Trade Comm’n, Speech to the China Intellectual Property Law Association’s IP and Antitrust Forum: Antitrust Oversight of Standard-Essential Patents: The Role of Injunctions (Sept. 12, 2015) [hereinafter *Antitrust Oversight of Standard-Essential Patents*]; Maureen K. Ohlhausen, Commissioner, Fed. Trade Comm’n, Remarks Before the Second Annual GCR Live Conference: Antitrust Enforcement in China — What Next? (Sept. 16, 2014).

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

Several findings in the economic literature inform my analysis. Park and Ginarte examined data from sixty countries between 1960 and 1990 to explore the relationship between IP rights and economic growth. They found that “IPRs affect economic growth by stimulating the accumulation of factor inputs like research and development capital and physical capital.”¹⁴ Following that study, Kanwar and Evanson dissected cross-country data on R&D investment and patent protection from thirty-two countries between 1981 and 1995, finding that “[t]he evidence unambiguously indicates the significance of intellectual property rights as incentives for spurring innovation.” In particular, “[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.”¹⁵

More current empirical work continues to find a statistically significant relationship between patent strength and R&D investment. A 2013 Brookings report observed, “Research 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.” 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.”¹⁶

There likewise is evidence that changes in the strength of patent protection influences firm behavior. In a well-known study, 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.”¹⁷ This is only a short summary of the evidence presented in my paper. Nevertheless, it supports my view that strong patent rights should remain at the heart of U.S. industrial policy.

A well-founded understanding of the importance of IP rights does not, however, replace the need for a critical eye to ensure that patents perform their optimal function. As I have said before, blind faith — either in promoting or abrogating patent rights — is “an irresponsible foundation for action by policymakers.”¹⁸

So how does my approach apply in practice? Turning to your question on patent reform, the FTC’s recent Patent Assertion Entity (“PAE”) report provides a useful case study to explain my approach to course correction in the IP space.¹⁹ PAEs are businesses that acquire patents from third parties and then try to make money by negotiating with, or suing, accused infringers who are already on the 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.

Congress, the Supreme Court, the White House and the USPTO each have expressed significant interest in PAE activity. Still, before we began our research, little was known about non-public PAE behavior. Consequently, I supported the FTC’s use of its statutory tools²⁰ to provide a greater understanding of PAE acquisition, litigation and licensing practice because more data on the non-public aspects of PAE activity improves the policy dialogue.

14 Walter G. Park & Juan Carlos Ginarte, *Intellectual Property Rights and Economic Growth*, 15 CONTEMPORARY ECON. POL’Y 51 (1997).

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

16 *Id.* at 15.

17 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).

18 Ohlhausen, *supra* note 13 at 108.

19 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. [hereinafter PAE Report].

20 15 U.S.C. § 46(b) (2012). 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 percent 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.

The PAE report presents a wealth of empirical research. Unfortunately, I cannot provide complete detail here. A few findings, however, are notable for their contribution to any patent reform debate.²¹

First, the FTC identified two distinctly different business models. Portfolio PAEs focused on negotiating licenses to large patent portfolios. Litigation PAEs, by contrast, focused on suing accused infringers and settling quickly. There was surprisingly little crossover in the behavior of these two groups. The Commission's policy recommendations are best understood within the context of Litigation PAEs.

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. The Commission reasoned that, "[g]iven the relatively low dollar amounts of the licenses, the behavior of Litigation PAEs is consistent with nuisance litigation."²²

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 encourages 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.

As I concluded in my recent article, the United States economy stands out for its exceptional innovation policy. Patents are a pillar of this innovation platform. While some stake their ground at the poles of the patent reform debate, the real picture is more complex. Consequently, a careful approach to patent reform requires incremental adjustment based on evidence and sound reasoning.

5. Lastly, what is your approach to an expansion of the FTC's role in safeguarding consumer protection and privacy?

Protecting consumers, including their privacy, remains central to the FTC's mission, and we have long served a critical role in such efforts. Under the previous administration, parts of that role were cleaved off and handed to other agencies such as the FCC and the CFPB. Given the FTC's long record of using enforcement and other tools to protect consumers, I support the relevant functions being returned to the FTC. This would be a restoration of our role, not an expansion. And within our current role, I would like to refocus our efforts on bread and butter fraud enforcement, where we can use our limited resources to do the most for consumers. In the privacy area, as in other areas of consumer protection, I believe the FTC should focus enforcement on matters where consumers are actually injured or are likely to be injured, or where companies don't keep their promises. The agency should focus on cases with substantial harms such as monetary injury and unwarranted health and safety risks. The agency should not focus on speculative injury or on very subjective types of harm. When evaluating consumer harm rooted in the release of information, identifying substantial harms can sometimes be difficult. To help with this issue, I have started an internal working group to explore the economics of privacy and data security protections. This working group will help strengthen the foundation of our privacy and data security enforcement actions.

²¹ Some have questioned the FTC's decision to include policy recommendations. I believe that, given the recurring interest in legislating changes in this area, the FTC has a responsibility to offer informed guidance to help ensure any changes have a positive impact in the IP marketplace.

²² PAE Report, *supra* note 19 at 4.

THE NEED FOR “INNOVATION CERTAINTY” AT THE CROSSROADS OF PATENT AND ANTITRUST LAW

BY PAUL R. MICHEL & MATTHEW J. DOWD¹



I. INTRODUCTION

Innovation has long been the driving force of the U.S. economy.² From the early days of our nation, inventors played a pivotal role in creating wealth for a growing nation, and this innovation continues today. Quantum computing research being funded by Google, IBM, Intel, and Microsoft; Genetic engineering, such as CRISPR; Autonomous vehicles, such as Otto’s self-driving trucks: The nation’s continued success in innovation is critical for maintaining the United States as an economic leader.

Successful innovation requires the proper environment. Innovators need intellectual capital, an educated workforce, and access to financial capital. These resources enable innovators to conduct the research and development and to optimize products for the commercial marketplace.

Equally important is a sufficient degree of what we call “innovation certainty.” Innovation certainty considers those legal, regulatory, and political factors that affect the degree of risk. The lower the degree of innovation certainty, the less hospitable the system is for innovators and investors. The less stable the legal and political rules, the more inimical the jurisdiction is to the investors who ultimately finance the innovative work.

During the past ten years, innovation certainty in the United States has decreased dramatically, and the decrease is directly attributable to two general trends: The destabilization of patent law, and the increased uncertainty in antitrust law. Both patent law and antitrust law, when properly implemented, contribute to an optimal level of innovation certainty. Patent law incentivizes innovation by awarding exclusive rights, thereby encouraging investment in and public disclosure of inventions.³ Antitrust law incentivizes innovation by

1 Hon. Paul R. Michel, Former Chief Judge, U.S. Court of Appeals for the Federal Circuit; Matthew J. Dowd, founder Dowd PLLC, Washington, D.C.

2 See generally United States Patent & Trademark Office, *Intellectual Property and the U.S. Economy: 2016 Update*, available at: <https://www.uspto.gov/sites/default/files/documents/IPandtheUSEconomySept2016.pdf>.

3 Joan Farre-Mensa, Deepak Hegde & Alexander Ljungqvist, *What is a Patent Worth? Evidence*

maximizing competition in a free marketplace and allowing startup innovators to disrupt markets and avoid monopolies created by market power. Working within these legal regimes, private firms innovate and commercialize. They also create efficient transaction mechanisms, such as standard setting organizations (“SSOs”) and FRAND (“fair, reasonable, and non-discriminatory”) licensing agreements for standard essential patents (“SEPs”), so that innovators and their investors can efficiently obtain a return on their capital.

Yet, due to a parade of legislation, judicial interpretations, and administrative application during the past decade, the combination of patent law destabilization and antitrust law uncertainty has devastated innovation certainty in the United States. A series of Supreme Court cases has altered the ground rules for patents with generally anti-patent holdings. Next came the America Invents Act (“AIA”), which fundamentally altered the adjudication of granted patent rights. Most recently, increased uncertainty in the antitrust area has resulted from the Federal Trade Commission invoking its controversial Section 5 authority to interject itself into the issue of FRAND licensing of SEPs, among other actions.

These and other events have swung the pendulum so far that we are now seeing the manifestations of diminished innovation certainty — or perhaps it is now better termed “innovation uncertainty.” We now see an unreasonable unwillingness to license intellectual property, even when there is no question of infringement. A larger percentage of applicants for U.S. patents are non — U.S. entities and inventors. The U.S. patent system is no longer considered the gold standard. In 2017, it fell from No. 1 to No. 10 in the annual U.S. Chamber of Commerce global ranking of patent systems. And despite all of this, as well as pending Supreme Court patent cases, there are continued calls for so-called patent “reform” legislation.

II. THE DESTABILIZATION OF PATENT LAW

With all of these changes, we must keep in mind that the patent right is grounded in the U.S. Constitution itself. The intellectual property clause is the only provision of the originally-ratified Constitution that concerns a personal property right. Other personal rights, such as protection of property from governmental takings, were added via amendments. James Madison proposed the IP clause, and it was so immediately and widely accepted as a top need for the new nation that the Founding Fathers adopted it without much debate.

For almost 230 years after the First Congress enacted the first Patent Act, strong intellectual property rights largely drove American economic growth, converting America from a poor, agrarian, backward and weak nation to the wealthiest, most industrialized, and most technologically advanced and powerful nation on earth.⁴

The past decade has yielded the most fundamentally destabilizing changes to the U.S. patent system in the nation’s history — through statutory amendments, judicial interpretation, and regulatory implementation.⁵ So much has changed in the last several years that the patent system is a shadow of its former self. America needs to take stock of the health and strength of its patent system, its efficiency, and its effectiveness today.

The destabilizing events can be traced to a series of judicial, legislative, and administrative interventions. The judicial decisions began primarily in 2006. That year, the Supreme Court weakened the power of injunctive relief for patentees in *eBay v. MercExchange*, despite the long tradition of granting injunctions when a patent was deemed valid and infringed.⁶ The *eBay* decision made injunctions

from the U.S. Patent “Lottery.” USPTO Economic Working Paper No. 2015-5 (Dec. 2015), available at: <https://ssrn.com/abstract=2704028> (demonstrating, for example, that “securing a patent has economically large and positive effects on a startup’s job creation, sales, and follow-on innovation”).

4 See Christopher Beauchamp, *The First Patent Litigation Explosion*, 125 Yale L.J. 848 (2016); Adam Mossoff, *Patent Licensing and Secondary Markets in the Nineteenth Century*, 22 Geo. Mason L. Rev. 959 (2015).

5 We have detailed elsewhere the uncertainty created by the Supreme Court’s patent law jurisprudence. See Paul Michel & Matthew J. Dowd, *The Uncertain State of Patent Law 10 Years Into The Roberts Court*, IAM, Nov./Dec. 2016, at 27.

6 For a more detailed analysis of *eBay*, see Paul R. Michel & Matthew J. Dowd, *Understanding the Errors of eBay*, 2 Criterion J. on Innovation 21 (2017), available at: <https://www.criterioninnovation.com/articles/understanding-the-errors-of-ebay/>.

essentially unavailable to successful patent owners despite the Constitution's assurance of "exclusive rights." unless they are direct competitors with corresponding products in the same market.

The following year, in *KSR v. Teleflex*, the Court raised the bar for patentability, making invalidation of patents issued long before under different standards substantially easier. Just as importantly, *KSR* imported a "common sense" standard for assessing whether an invention was obvious. Now, innovators face not only a raised bar for demonstrating that an invention is nonobvious, but also a subjective "common sense" bar. As Voltaire noted, "common sense is not so common," and its usefulness in patent law is tenuous at best.

Next came the quartet of Supreme Court decisions on patent eligibility: *Bilski*, *Mayo*, *Myriad*, and *Alice*. By any measure, these decisions effected a complete and dramatic revolution in eligibility law. The Supreme Court started with *Bilski* in 2010, continued with *Mayo* in 2012 and *Myriad* in 2013, and finished with *Alice* in 2014. Each decision expanded the scope of the so-called judicial exceptions to patentability. The *Myriad* decision was *sui generis* in certain respects, in that it dealt with the unique properties of genetic information encoded in human DNA. But the other three created enormous uncertainty about the patentability of medical diagnostics, software, computers, and business methods.

The patent system had yet to fully reveal the magnitude of the Court's judicial reinterpretation when Congress enacted the America Invents Act in 2011.⁷ Starting in 2013, we began to see the fuller impact when the final decisions from AIA post-grant reviews began to issue from the PTO's Patent Trial and Appeal Board ("PTAB"). Every patent attorney is well-aware of the PTAB's impact on patent law and its nickname as the "Patent Death Squad." Invalidation rates were astronomically high at the outset. While the rate of instituting review of a patent has lowered somewhat recently, the rates of invalidation remain extraordinarily high.

More importantly, the PTAB proceedings differ significantly from traditional procedures for challenging the validity of a duly issued U.S. patent. Discovery is highly restricted. There is virtually no live testimony of witnesses, including expert witnesses, so the PTAB has no means of assessing the credibility of one witness over another. Additionally, the near unanimity of PTAB decisions leads one to question whether the three administrative patent judges assigned per case are independently assessing the merits of the challenged patent claims.

To add to the uncertainty, a patent owner who prevails in district court risks losing before the PTAB under a lower burden of proof. The Federal Circuit recently confirmed that the PTAB is not bound to follow the validity determination of a district court.⁸ This outcome is of course a correct application of the statutory scheme, but it underscores the lack of certainty associated with the current patent regime.

III. THE UNCERTAINTY IN ANTITRUST LAWS

In addition to the destabilization of patent law, the past several years have witnessed a wave of changes in antitrust law increasing legal uncertainty for patent owners and innovators. The FTC has taken an increasingly aggressive stance in asserting its authority under the FTC Act to investigate the licensing of intellectual property.

The FTC's decision to investigate and study "patent assertion entities" (PAEs) was a major inflection point that rattled patent owners. The FTC's assertion of its power under Section 6 of the FTC Act to collect confidential business information of patent owners was a concerning announcement for licensors of intellectual property.

⁷ Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, § 6(a), 125 Stat. 284, 299-304 (2011), codified at 35 U.S.C. §§ 311-319.

⁸ *Novartis AG v. Noven Pharms. Inc.*, No. 2016-1678, slip op. at 5-9 (Fed. Cir. Apr. 4, 2017).

The FTC's final report⁹ did not resolve the concerns of innovators and patent owners. Instead, the PAE report revealed general trends, many of which were already known by patent attorneys experienced with patent litigation. For example, the report noted that "most licenses in the sample followed a patent infringement suit against the alleged infringer."¹⁰ But experienced patent counsel were well versed with infringers who refused to take a patent license until sued for infringement.¹¹

Beyond the particular data, the report's recommendations have been criticized because they lack any grounding in the study's limited factual determinations. The methodology of the PAE report was bound to produce a report that was semi-informative but not generalizable.¹² Others criticized the one-size-fits-all approach of the FTC's definition of PAEs.¹³ In short, the FTC's PAE report overpromised and underdelivered, producing more antitrust questions than answers for patent licensors.

The uncertainty caused by the PAE report compounded existing uncertainty due to the Supreme Court's recent decisions concerning patent exhaustion. In *Quanta*, the Court unanimously held that rights to a patented method can be exhausted by the authorized sale of a component that substantially embodies the patented method. Then, in *Bowman*, the Court applied a narrower view of patent exhaustion, although in the context of a self-replicating invention (genetically-engineered crops), that was not entirely consistent with *Quanta*. Currently pending before the Court is *Impression Products, Inc. v. Lexmark International, Inc.*, which may resolve significant, unanswered questions about the scope of patent exhaustion.

Most recently, the FTC sent a jolt through the patent licensing community with its Section 5 complaint against Qualcomm for its licensing activities with respect to standard-essential patents and FRAND licensing. FTC's action against Qualcomm raises many significant questions and heightens the uncertainty patent licensors currently face.

First, the *Qualcomm* case is a stand-alone Section 5 case. Such stand-alone cases are rare and have been publicly criticized. Section 5 actions target "unfair methods of competition," and there is significant debate about the scope and meaning of an "unfair method of competition." In many instances, conduct that would not violate Section 2 of the Sherman Act might be considered a violation of Section 5 of the FTC Act.

The *Qualcomm* case also raises the question of what constitutes FRAND licensing terms. In other words, what licensing terms are "fair, reasonable, and non-discriminatory"?

Beyond the legal issues, the *Qualcomm* case appears mired in political maneuvering. The FTC voted 2-1 to file the complaint. The Commission was lacking two members, and it took action just before the inauguration of President Trump. Commissioner Ohlhausen issued a sharply worded dissent.¹⁴ Further, the Commission acted to file only a district court complaint seeking injunctive relief, without a parallel administrative proceeding. All of these extrajudicial factors create a cloud of antitrust uncertainty for companies licensing patent portfolios.

9 Federal Trade Commission, *Patent Assertion Entity Activity* (Oct. 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.

10 *Id.* at 5.

11 In the 1990s, for example, IBM licensed vast numbers of patents to voluntary licensees acquiring some \$2 billion per year, and without ever needing to file a lawsuit. Now, outside counsel routinely advise clients not to license or negotiate or stop using the patented technology. Instead, they advise clients to ignore patent owners and patent licensing offers. Savvy outside counsel know that patent owners may lack the financial means to enforce their patent rights in court. Outside counsel can recommend filing IPRs, which add to the cost of patent enforcement and increase the delay in resolving patent disputes.

12 Layne-Farrar, Anne, *What Can the FTC's §6(B) PAE Study Teach Us? A Practical Review of the Study's Methodology* (Mar. 1, 2016), available at: <https://ssrn.com/abstract=2722057>.

13 Kristen Osenga, *Sticks and Stones: How the FTC's Name-Calling Misses the Complexity of Licensing-Based Business Models*, 22 *Geo. Mason L. Rev.* 1001 (2015).

14 Maureen K. Ohlhausen, Acting Chairman, Federal Trade Commission, *Optimizing Innovation and Strengthening Intellectual Property Protection* (Apr. 6, 2017), available at: https://www.ftc.gov/system/files/documents/public_statements/1207513/ohlhausen_-_aba_ipl_conference_remarks_4-6-17.pdf.

The import of the FTC action, of course, is that even if a patent owner survives multiple *inter partes* reviews (“IPRs”) and has the funds and facts to litigate fully and successfully on both validity and infringement in the district court, it may be defeated in the SEP context depending on how the FTC defines the FRAND contractual obligation the patent owner owes at least to the SSO companies, and perhaps even others. The test may be whether the potential licensee is itself practicing the SEP technology as distinct from simply being a supplier of parts to original equipment makers (“OEMs”) where only the OEM practices the standard.

In the background is whether the defendant, Qualcomm, must license a direct competitor chip set maker. That, of course, conflicts with the basic notion that an owner does not have to license competitors. In the foreground is whether Apple can abrogate agreed license terms with Qualcomm as being against public policy as established under the Sherman Act and/or the FTC Act.

Finally in the antitrust context, the FTC and DOJ recently revised their Antitrust Guidelines for the Licensing of Intellectual Property.¹⁵ Although the changes were not substantial, the revised guidance from the agencies contributes to the existing questions about the scope of permissible licensing activities. Absent from the updated Guidelines, however, is any meaningful discussion of what constitutes a violation of Section 5 of the FTC Act — an absence particularly notable in view of the FTC’s action against Qualcomm.

IV. THE FALLOUT FROM INNOVATION UNCERTAINTY, AND WHERE NEXT?

As is evident from the above, over the course of about ten years, the three tidal waves have impacted the U.S. patent system: (1) multiple Supreme Court decisions decreasing the strength and value of patents; (2) the implementation of a quasi-judicial administrative proceeding before the PTAB, making it easier to invalidate issued patents; and (3) the FTC’s increasingly aggressive approach to challenging IP licensing practices. The combined impact of these three tidal waves: massive innovation uncertainty.

In the last few years, the value of publicly-traded patent rights has dropped by over 60 percent, according to several economists.¹⁶ Information about private trading and licensing is not readily available, but it seems reasonable that the diminishment is similar in the private sector.

Reduced value of patents is not the only or worst harm. The more significant harm is the added uncertainty over whether there even is a patent right. For every one of the many thousands of patents invalidated by examiners, the PTAB, or the courts under changed law, there are likely thousands of issued U.S. patents that now reside under a cloud of doubt. Accused infringers are now even less likely to accept a license, which in turn leads to additional expensive litigation that takes many years to conclude.

We must also consider the decreased innovation certainty in the United States as compared to other nations. For example, patent application filings in the United States are sharply down in 2017, but sharply up in China and significantly up in Europe. Patent enforcement suits and payment of maintenance fees — both sharply down in the U.S. The number of U.S.-based inventors on U.S. patent applications has also decreased dramatically in recent years.

Importantly, injunctions are increasingly uncommon in the United States, but remain more readily available in other jurisdictions, such as Germany, England and China, once infringement and validity are established. Eligibility for patent protection has been greatly restricted in the United States, while in Europe and China, innovators are benefiting from recently broadened standards for patent eligibility. Capital and innovation being mobile, America may be putting itself at a competitive disadvantage compared to such global competitors. How ironic, when innovation has long been our biggest competitive advantage!

¹⁵ See Federal Trade Commission, *FTC and DOJ Issue Updated Antitrust Guidelines for the Licensing of Intellectual Property* (Jan. 13, 2017), at <https://www.ftc.gov/news-events/press-releases/2017/01/ftc-doj-issue-updated-antitrust-guidelines-licensing-intellectual>.

¹⁶ Bruce Berman, *Public Patent Licensing Company Index Declined 24.4% in 2015*, IP Close Up, Jan. 11, 2106, available at: <https://ipcloseup.com/2016/01/11/public-patent-licensing-company-index-declined-24-4-in-2015/>.

Importantly, the interaction of antitrust law and patent law need not be antagonistic. As aptly noted by one law professor, “[t]he relationship between patent law and antitrust law has challenged legal minds since the emergence of antitrust law in the late nineteenth century.”¹⁷ Viewed from one perspective, patent law restricts competition in the short term, while antitrust laws seek to maximize free-market competition.

But both legal regimes are intended to improve economies and consumer welfare in the long term, albeit utilizing different legal levers. Perceptive commentators have recognized that the patent regime and the antitrust regime can work in tandem to increase consumer welfare.¹⁸ Recognizing the complementary relationship between patent law and antitrust law is key to maximizing innovation certainty in the United States.

This complementary relationship brings us to the question of whether the decisions or actions in any of the three waves took into account the changing patent and antitrust environments? Of course not. After *eBay*, the Supreme Court did not assess the practical impact on injunctive relief before it weighed in on the patent-eligibility cases. Had it done so, the Court might have realized that the district courts preferentially followed the Kennedy concurrence, which advocated for limits on injunctive relief for non-practicing patent owners, even though the Roberts concurrence recognized that injunctions were historically the norm and should continue to be in similar circumstances. Similarly, the Court did not assess the impact of *KSR* before limiting patent-eligibility in *Bilski*, *Mayo*, and *Alice*.

This is not to say that courts necessarily have an obligation to make policy determinations in patent law, but there can be no reasonable debate that the Supreme Court is making such policy decisions with respect to the availability of injunctive relief, the standard for obviousness, and the scope of patent eligibility. When it assumes the role of policymaker, the Court is obligated to account for its prior decisions before further weakening patent rights.

The same holds true for the FTC, particularly when it invokes the controversial Section 5 to assert its view on the licensing of intellectual property. When the two FTC Commissioners voted to take action against Qualcomm under Section 5, did they fully appreciate the extent to which legislation and judicial action has weakened the patent system during the past decade? There is no indication of any such consideration in the FTC’s complaint.

Similarly, there is no indication whether, in 2011, Congress was aware of the full impact of *eBay*, *KSR*, and the Patent Act’s Section 101 cases on the patent system. Yet, Congress forged ahead and passed what turned out to be the most fundamental restructuring of the U.S. patent regime since the nation’s founding.

The question then arises: What perspective could and should have been applied to the evolving patent and antitrust landscape? The answer to that resides in the primary purpose of the patent system, which is to promote invention by incentivizing investment. Research and development is generally expensive. Commercialization can be even more expensive. While innovators will sometimes create in exchange for an average salary, the process of innovation almost always requires significant financial capital, and the exclusive patent right promotes that.

At the same time, the markets have to be structured so that innovators are able to commercialize their new products and services without being crushed by large firms that have enormous market power. Antitrust laws have to be enforced to permit new firms and products to challenge entrenched firms; otherwise, the result leads to monopolistic companies that can charge supracompetitive prices. Without intellectual property protection, new ideas will be taken over by these firms, which is an increasing concern given the concentration of goods and services in an online, internet-based marketplace. Venture capital investors are

17 Robin Feldman, *Patent and Antitrust: Differing Shades of Meaning*, 13 Va. J. of L. & Tech. 3 (2008).

18 Gregory Dolin, Center for the Protection of Intellectual Property, *Resolving the Patent-Antitrust Paradox: Promoting Consumer Welfare Through Innovation* (May 2013) (“If, however, the true goal of patent and antitrust law is consumer welfare writ large, then the two legal regimes can be seen as working in tandem, rather than in opposition.”); F. Scott Kieff, *Thinking about IP and Collaboration at the Patent-Antitrust Interface*, IPWatchdog.com, Apr. 9, 2107, available at: <http://www.ipwatchdog.com/2017/04/09/ip-patent-antitrust-interface/id=81893/> (discussing “a commercialization approach” to the intellectual property-antitrust interface”).

becoming less likely to invest in start-up companies that lack any protectable intellectual property because, without a protectable IP asset, new entrants are at a severe disadvantage.

In actual commerce, investment decisions reflect basic predictions about return on investment. What are the odds there will be an assured return on the amount invested, plus profit? How large? How soon? Investors compare competing investment opportunities, and when investments in other businesses, such as entertainment and media companies, look more promising, investment dollars will be directed to those opportunities instead of start-up companies that require significant R&D financing. When the “innovation certainty” in a particular sector or a particular country falls too low, it is no longer a viable investment.

Unfortunately, the impact of these interventions, usually called “recent,” has been to decrease innovation certainty. For instance, before the AIA, patent litigation was already very expensive (approximately several million per action) and slow (often 3 or 4 years, including at least one appeal). After AIA reviews became standard, total patent enforcement costs increased still further, as did delays. With stays of district court infringement actions granted in some two-thirds of cases with pending IPRs, total delays increased dramatically. And, some 80 percent of IPRs have pending court cases. An IPR typically takes 5 or 6 months to institute and one year to conclude for a total of about 18 months. If the stay remains in effect until the conclusion of the likely Federal Circuit appeal, the delay is around 2.5 years. With serial, overlapping IPRs, which are not uncommon, delays increase still further. Thus, total delay is in the range of 5 to 7 years or more. Expense also increases materially. At about half-million or more per IPR, the added cost is typically in the millions, on top of the millions for the district court proceedings.

In addition, as noted above, the PTAB applies a lower burden of proof, compared to district court litigation, when assessing the patentability of the challenged claims. Before the PTAB, a patent challenger need establish unpatentability only by a preponderance of the evidence. In district court, the patent challenger must establish invalidity by clear and convincing evidence. The system, as conceived, would create disparate outcomes, with patent claims being held valid in district court yet unpatentable before the PTAB, even if the proceedings involved the same evidence. Similarly, patent claims could also fall in district court litigation yet survive a PTAB review because the two proceedings might involve different evidence. How reasonable is the AIA review regime when such disparate outcomes are hardwired into the system?

* * *

On January 25, 2011, Senator Patrick Leahy introduced a bill that ultimately led to the America Invents Act. When he introduced the bill, he stated that it “provides the tools the USPTO needs to separate the inventive wheat from the chaff” and that “[i]t will allow our inventors and innovators to flourish.”¹⁹ Six years later, and after a tumultuous decade in patent law, there is considerable evidence that innovators and inventors are not flourishing.

19 157 Cong. Rec. S131 (daily ed. Jan. 25, 2011) (statement of Sen. Leahy).



ON PATENT “MONOPOLIES”: AN ECONOMIC RE-APPRAISAL

BY DAVID J. TEECE¹ AND EDWARD F. SHERRY²



I. INTRODUCTION

In exchange for public disclosure, the patent system gives a successful patent applicant the right to exclude others from using the patented technology without permission (e.g. in exchange for royalties) for a period of time (in the U.S., currently 20 years from application). A series of (mostly) older cases refer to this exclusivity as a “patent monopoly.” The questions we address in the current article are: to what extent is the “patent monopoly” language useful? To what extent is it misleading? What are its virtues and limitations?

II. RELEVANT MARKET ISSUES

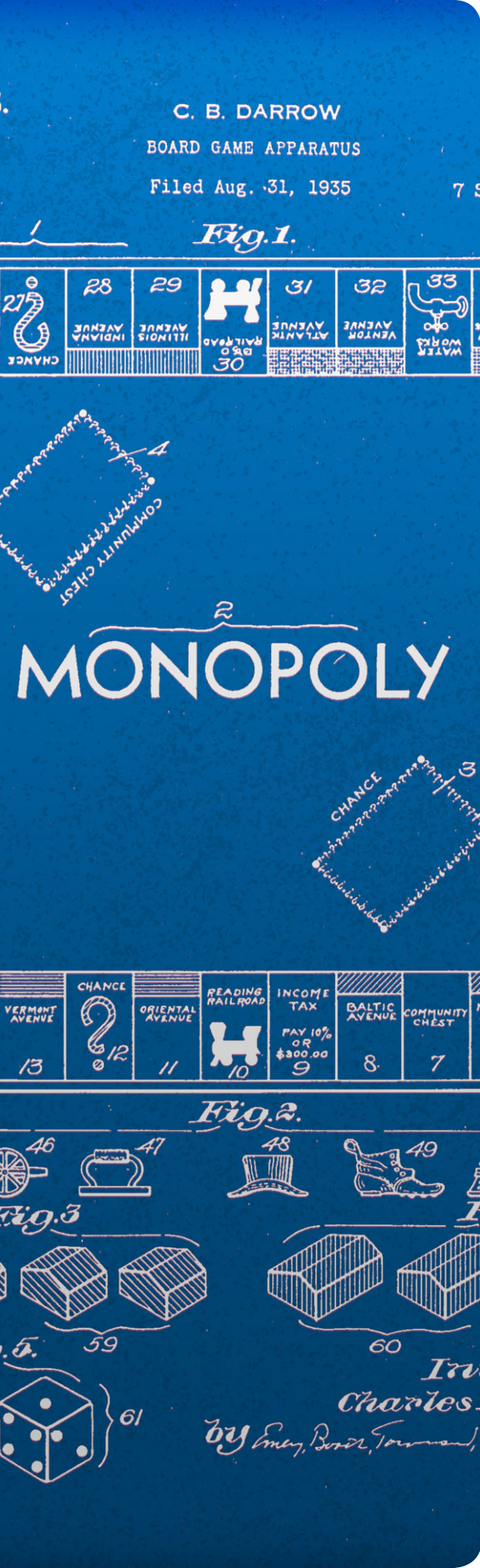
The term “monopoly” is typically used in economics to refer to the situation in which a single firm is the sole provider of some good or service. But this can be taken too far. By way of analogy, I am the only person who can supply my own services, but it does not make much sense to say that I have a “monopoly” over the supply of my services in any economically-meaningful sense, given that others can and do supply similar services of their own that may be very close substitutes to my services. Similarly, Ford is the only authorized supplier of new Ford-branded automobiles, and in that (limited) sense Ford has a “monopoly” over the supply of new Ford-branded automobiles. But Ford faces competition from other automobile manufacturers (as well as from sellers of used Ford-branded and non-Ford-branded automobiles).

Instead, antitrust economists are concerned about monopolies over some “relevant market.” The European Commission defines a relevant product market as follows: “A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer by reason of the products’ characteristics, their prices and their intended use.”³

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² Chief Economist, Expert Research Associates.

³ <http://europa.eu/scadplus/leg/en/lvb/l26073.htm>.



Similarly, the U.S. Department of Justice/Federal Trade Commission Merger Guidelines define an antitrust market as “a product or group of products and a geographic area in which it is produced or sold such that a hypothetical, profit maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose a small but significant and nontransitory increase in price, assuming the terms of sale of all other products are held constant.”

In defining relevant markets, economists warn against committing what is known as the “Cellophane Fallacy.”⁴ Even a monopolist may raise its prices to the level at which competition from other products constrains its ability to raise prices further without losing profits. One wants to look at the likelihood of substitution at competitive prices, not at monopolistic prices.

It is widely recognized that, in certain contexts, other technology (whether patented or unpatented) may be a close substitute for the particular patented technology at issue. That is, other technology (whether patented or unpatented) may compete with the patented technology. The degree of competition may be very close or more distant. Only in rare cases does the patented technology not face competition from other technologies, including whatever prior art technology may have been used prior to the development of the patented technology at issue. (This can happen where the patented technology is so superior to the alternatives that the alternatives, including the prior art, are no longer commercially viable. One historic example is the fact that the rise of solid-state electronics obsoleted virtually all uses of the earlier vacuum tube technology, except in fringe applications.) In most situations, a patent holder does not hold a “monopoly” over a relevant technology market. The relevant technology market also includes the other (patented or unpatented) technologies that compete with the particular patented technology at issue.

It is also worth remembering that, under U.S. law, it is not illegal to have a monopoly, unless the monopoly was attained or maintained by improper means. For a patent, the most likely improper means of attaining a patent is committing fraud on the patent office. And if that is proven, the patent is invalidated, so the monopoly disappears. Vexatious litigation may provide another example where others are deterred from using alternatives.

III. PATENTS ARE NOT SELF ENFORCING

There is another, different sense in which the term “patent monopoly” can be misleading. This has to do with the fact that patent rights are not self-enforcing; patent holders cannot physically withhold their technology from others because the technology is disclosed in the patent itself, and the patent is published. (Indeed, under U.S. patent law the patent applicant is supposed to disclose enough to enable someone “skilled in the art” to practice the “best mode” of the patented invention.) Accordingly, they have to resort to the (costly and time consuming) legal system to seek to get compensated for others’ unauthorized use. This characteristic of patent rights is very different from the situation with tangible goods, for which the supplier will generally not supply the good unless it is assured of getting paid. Suppliers of tangible goods can physically withhold supply.

In particular, patent holders have to enlist the assistance of the courts in order to enjoin others from infringing patent rights. Ever since the Supreme Court’s *eBay* decision in 2006,⁵ U.S. courts had applied a four-factor test in deciding whether or not to grant an injunction. Numerous courts have chosen not to grant injunctive relief even after a patent has been found valid and infringed, especially in contexts where the patent holder is a non-practicing entity (“NPE”) and/or the infringer does not compete with the patent holder.⁶ A refusal to enjoin ongoing infringement, even if accompanied by an award of enhanced post-liability damages, amounts to a compulsory license that the patent holder may not have been willing to grant. In such a situation, the patent holder will have lost the ability to control the use of its patented technology. Far from having monopoly power, the patent owner may well be the victim of

4 See, e.g. <https://www.justice.gov/atr/monopoly-power-market-definition-and-cellophane-fallacy>. The term came from an antitrust case, *U.S. v. E.I. DuPont*, 351 U.S. 377 (1956). The government argued that DuPont had a monopoly on cellophane (a flexible packaging material). DuPont argued (and the Supreme Court agreed) that, at the then-prevailing price, cellophane competed with numerous other flexible packaging materials (such as wax paper). The fallacy was the assumption that the appropriate test was whether duPont faced competition at the (prevailing) market price, which DuPont had set at a monopoly level, rather than at the (lower) competitive price.

5 *eBay, Inc. v. MercExchange LLC*, 547 U.S. 388 (2006).

6 See Seaman, “Permanent Injunctions in Patent Litigation After eBay: An Empirical Study,” 101 *Iowa L. Rev.* 1949 (2016).

infringement (the equivalent of trespass) and as a practical matter cannot do much about it other than sue seeking damages and a potential injunction.

IV. MULTIPLE RIGHTS SITUATION

It is important to note that a patent grant need not give the patent holder the right to actually *practice* the patented invention. Other parties may have patent rights as well, and the patent holder may need permission from others to practice its patent. This is clearest in the context of what are termed “improvement patents.” Firm A has a patent on a basic widget (call it W). Firm B comes up with an idea for an improved widget (call it I), and patents the improvement. In order to make and sell the improved widget, B needs a license to A’s underlying widget patent. B can prevent A from making the improved version, but cannot make and sell its own improvement invention without a license to A’s underlying invention.

In some contexts, notably the adoption of formal compatibility or interoperability standards, there may be hundreds if not thousands of patents, held by dozens or hundreds of firms, which are claimed to be “essential” to make and sell products compliant with a given standard. The intellectual property rights (“IPR”) policies of standards development organizations (“SDOs”) typically provide that the SDO will not knowingly include such technologies into a proposed standard unless the patent holder agrees to make an “unlimited” number of licenses available to potential implementers of the standard on “reasonable and non-discriminatory” (“RAND”) or “fair, reasonable, and non-discriminatory” (“FRAND”) terms. In such situations, there can be hundreds or thousands of what are claimed to be “standards essential patents” (“SEPs”), held by dozens or hundreds of patent holders. To say that, in such situations, there are hundreds or thousands of technology “monopolies” relating to a given standard illustrates another significant limitation of the “patent monopoly” language.

V. STANDARDS ESSENTIAL PATENTS

There has been a lot of discussion in recent years about patent-related “market power” issues in the context of what are generally referred to as “standards essential patents,” patents whose use is necessary in order to make products that comply with a formal standard set by an SDO. Most SDOs have IPR policies that provide that the SDO will not knowingly incorporate patented technology into a standard unless the patent holder commits itself to making licenses available to implementers on RAND or FRAND terms. Such commitments can be made on a patent-by-patent basis or on a “blanket” basis, often covering all of the patents that the party making the commitment has (or may end up having, including pending patent applications) that turn out to be essential to practicing the standard. In many standardization contexts, dozens or hundreds of firms have made such FRAND commitments for hundreds if not thousands of SEPs. Assuming *arguendo* that the patent holder has made such a FRAND commitment, what does this imply for the issue of whether the patent holder has a “patent monopoly”?

The courts that have examined the issue have concluded that the FRAND commitment to an SDO is a binding contract between the SDO and the patent holder that has made the commitment, with standards implementers as the third-party beneficiaries of the FRAND commitment and able to compel the patent holder to honor its FRAND commitment. Such FRAND commitments act as a significant constraint on the patent holder’s ability to exercise any possible “market power” over its patented technology, as implementers have the ability to go to court and compel the patent holder to make licenses available on terms the *court* decides are FRAND. There is no analogue in the context of monopolies over physical goods. Courts in such instances are aware of the presence of other holders of SEPs and of concerns about the possibility of “hold up” (a situation in which the patent holder is able to charge excessive royalties that exceed the “inherent value” of its technology) by the patent holder, as well as the possibility of “royalty stacking” (where the implementer must pay royalties to multiple patent holders). Putting to one side the incongruity of claiming that there are hundreds or thousands of “patent monopolists” for a single standard, the presence of FRAND commitments acts as a contractually-enforceable constraint on any exercise of “market power” over patented technology.

VI. PATENTS ARE PROBABILISTIC

Another key difference between patent rights and tangible goods is that patent rights are probabilistic.⁷ There is only some probability that the patent, if asserted against a particular product, will be found both valid and infringed. Empirical studies of “win rates” (including one we wrote) show that only about half of litigated patents are found valid and infringed.⁸ This is very unlike the situation with tangible goods. Consequently, accused infringers can and often do practice the claimed technology without paying for it (though they may ultimately have to pay patent infringement damages should they be sued and lose). Such behavior is common in many industries. In such “widespread infringement” contexts, there are often two groups of suppliers of the technology: the (nominal) patent holder and those who are practicing the technology with its permission, and unlicensed firms that are practicing it without permission. In such contexts, to talk of a “patent monopoly” is largely meaningless.

VII. CONCLUSION

All of these considerations – competition from rival technologies, the non-self-enforcing nature of patent rights, the need to enlist the courts to prevent unauthorized use, the multiplicity of patent rights, including the multiplicity of SEPs for various standards, and the probabilistic nature of patent rights – make simplistic assertions that patent rights constitute “monopolies” not particularly informative or helpful. In today’s world, it is common for the patent owner to be largely impotent to control others’ use of its invention, because of the reluctance of courts in many jurisdictions to grant injunctions (especially in the context of SEPs). Economic models which (tacitly or expressly) assume that patents are tantamount to “monopolies” border on gross caricatures of business realities in such jurisdictions. Even an award of (court-determined) reasonable royalty damages (or FRAND royalties in the case of SEPs) is not sufficient to restore the patent holder’s control. And even in such cases, one needs to look at the entire relevant technology market, including alternatives to the patented technology at issue.

⁷ See Lemley and Shapiro, “Probabilistic Patents,” 19 *J. Econ. Perspectives* 75-98 (2005).

⁸ Sherry and Teece, “Royalties, evolving patent rights, and the value of innovation,” 33 *Research Policy* 179-191 (2004), and articles cited therein.





A COMPARATIVE AND ECONOMIC ANALYSIS OF THE U.S. FTC'S COMPLAINT AND THE KOREA FTC'S DECISION AGAINST QUALCOMM

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I. INTRODUCTION

On January 17, 2017, the U.S. Federal Trade Commission (“FTC”) filed a lawsuit against Qualcomm Incorporated based on a “monopoly broth” or course of conduct theory for alleged monopoly maintenance in certain narrowly defined baseband processor markets.² The vote to file the complaint was 2-1 over the dissent of now-Acting Chairman Maureen Ohlhausen, who described it as “an enforcement action based on a flawed legal theory (including a standalone Section 5 count) that lacks economic and evidentiary support, that was brought on the eve of a new presidential administration, and that, by its mere issuance, will undermine U.S. intellectual property rights in Asia and worldwide.”³

In a jurisdiction on the other side of the globe, the Korean Fair Trade Commission (“KFTC”) issued an administrative decision against Qualcomm

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² Complaint of Federal Trade Commission for Equitable Relief, *Federal Trade Commission v. Qualcomm, Inc.*, 5:17-CV-00220 (N.D. Cal 2017) [hereinafter FTC Complaint], https://www.ftc.gov/system/files/documents/cases/170117qualcomm_redacted_complaint.pdf. The FTC defines baseband processors as “semiconductor devices that enable cellular communications in cell phones and other products.” *Id.* ¶ 1.

³ Dissenting Statement of Commissioner Maureen K. Ohlhausen, *In re Qualcomm, Inc.* File No. 121-0199 1-2 (Jan. 17, 2017), https://www.ftc.gov/system/files/documents/cases/170117qualcomm_mko_dissenting_statement_17-1-17a.pdf.

on December 28, 2016, concluding that the company employed an “unfair business model” with respect to the licensing of its 2G (“CDMA”), 3G (“WCDMA”), and 4G (“LTE”) standard-essential patents (“SEPs”) and the sale of its baseband processors, and imposed global portfolio-wide remedies and a fine of KRW 1.03 trillion (approx. U.S. \$853 million).⁴

This article provides a legal and economic comparative analysis of the FTC’s complaint and the KFTC’s decision, highlighting the fundamental differences between the two and setting forth some of the main economic and legal problems with each. As an initial matter, it is important to bear in mind that the FTC’s complaint is not a decision, but rather a set of allegations filed in court to initiate the court’s resolution of the issues. Meanwhile, Qualcomm has stated that it will appeal the KFTC’s administrative decision, and has requested a stay from the Seoul Central District Court.⁵

With respect to the substantive allegations, there are some similarities in the two cases but the main theories of harm differ significantly. For example, the KFTC concluded that Qualcomm possesses dominance in 2G, 3G, and 4G technologies: “As SEPs cannot be replaced by other technologies, a SEP holder gains complete monopolistic power by holding even a single SEP,”⁶ while the FTC limited its market power allegations to CDMA baseband processors and premium LTE baseband processors.⁷ Unlike the KFTC’s decision, the FTC’s complaint contains no allegation that Qualcomm engaged in unlawful tying or bundling by licensing on a portfolio basis, nor does the FTC allege that Qualcomm violated U.S. antitrust laws by allegedly requiring royalty-free cross-licenses.

To the extent that any other competition agency is relying upon the FTC’s complaint to state a theory of harm with respect to SEP licensing practices, it would be well advised to read the complaint carefully. If a foreign agency is seeking FTC endorsement of any particular theory, it would be wise to reserve judgment until at least the appointment of new FTC Commissioners and, if the agency does not then withdraw the complaint, until the court has ruled on the FTC’s ambiguous and highly controversial theories of harm.

II. THE FTC COMPLAINT

The FTC’s Complaint is unclear but it appears to allege that Qualcomm unlawfully maintained its monopoly in certain baseband processor markets through a course of conduct consisting of: (1) the so-called “no-license, no-chip” policy; (2) refusal to license at the component, as opposed to the end-user device, level; and (3) a *de facto* exclusive dealing arrangement with Apple. As pleaded, with the possible exception of the third claim (which, as explained below, relies upon a problematic definition of the relevant market), none of the conduct alleged by the FTC is unlawful by itself. In other words, the FTC seems to rely upon the generally disfavored “monopoly broth” theory, whereby otherwise legal acts become illegal when done in combination.⁸

The FTC alleges that Qualcomm has “market power with respect to CDMA baseband processors and premium LTE baseband processors.”⁹ It does not allege that Qualcomm has market power in any SEP market, and in fact alleges that “Qualcomm’s share of

4 Information on the KFTC Decision is based upon its press release detailing the decision. Press Release, Korea Fair Trade Comm’n at 5-6 (Dec. 28, 2016) (Unofficial Translation) [hereinafter KFTC Press Release], <https://www.qualcomm.com/documents/kftc-issued-press-release-dated-december-28-2016-unofficial-english-translation>.

5 *Qualcomm files suit against FTC citing unfairness*, THE KOREAN HERALD (Feb. 22, 2017), <http://www.koreaherald.com/view.php?ud=20170221000962>.

6 KFTC Press Release, *supra* note 4, at 2.

7 FTC Complaint, *supra* note 2, ¶ 31.

8 See, e.g. Daniel A. Crane, *Does Monopoly Broth Make Bad Soup*, 76 Antitrust L.J. 663, 663-64 (2010) (“[T]he ‘monopoly broth’ maxim is susceptible to misuse, particularly if applied to species of conduct whose legality depends on a developed conduct-specific test. In such cases, the *prima facie* legality of the conduct should be determined on a practice-by-practice basis. Any conduct that does not meet the relevant conduct-specific test should not be allowed to count toward liability or any other issue. In particular, plaintiffs should not be allowed to invoke ‘monopoly broth’ rhetoric in order to defeat established legal tests applicable to different kinds of conduct.”); Andrew I. Gavil et al., ANTITRUST LAW IN PERSPECTIVE 648 (3RD EDITION) (2017) (“Applying the pattern or practice theory poses the challenging task of defining what quantum of individual acts suffices to create the critical mass of legality.”).

9 As discussed below, unlike the KFTC, the FTC does not allege that Qualcomm has market power in 3G or 4G SEPs but only that it held a high share of all patents declared essential.

patents declared essential to LTE standards ... is roughly equal to the shares of other industry participants.”¹⁰ The closest the FTC comes to this is alleging that Qualcomm held a “high share of all patents declared essential” to 2G.¹¹ The share of declared essential patents is irrelevant, however, to measuring market power for two reasons.

First is the over-declaration stemming from two market forces. Standard development organization (“SDOs”) commonly permit members to make blanket declarations; i.e. a patent holder may promise to license on certain terms, such as fair, reasonable, and non-discriminatory (“FRAND”) terms, any and all patents that may be essential, without identifying any particular patents. SDO members over-declare their patents as SEPs in order to protect against allegations that they are engaging in a “patent ambush” when they later seek royalties for their patents.

The second problem with treating the share of declared essential patents as indicative of market power is that the relevant figure from the perspective of an implementer is the number of parties with which it must negotiate for a portfolio (SEP or SEP+) of licenses. The larger the number of declared SEP holders, the more forceful is an implementer’s resistance to “high” royalty rates in negotiating licenses. Without a successful downstream market implementing the standard, declared SEP holders can not earn a return on their patents.

A. So-Called “No License, No Chips” Policy

The FTC alleges that “Qualcomm withholds its baseband processors unless a customer agrees to license SEPs on Qualcomm’s terms, including elevated royalties that the customer must pay when using competitors’ processors.”¹² According to the FTC, this alleged policy,

dramatically increases customers’ costs of challenging Qualcomm’s preferred license terms before a court or other neutral arbiter — including on the basis that those terms are non-FRAND — or to negotiate royalties in the shadow of such a challenge. This leaves Qualcomm’s customers in a markedly different position than they would be in a typical patent licensing negotiation. As a result, Qualcomm’s customers have accepted elevated royalties and other license terms that do not reflect an assessment of terms that a court or other neutral arbiter would determine to be fair and reasonable.”¹³

The FTC goes on to allege that:

The incremental royalty that OEMs pay to Qualcomm operates as a “tax” that raises OEMs’ costs of using baseband processors supplied by Qualcomm’s competitors, reduces demand for competitors’ processors, and reduces the ability and incentive of competitors to invest and innovate. The tax thereby maintains Qualcomm’s monopoly power and raises handset prices paid by consumers.¹⁴

The FTC further alleges that Qualcomm’s practice is “anomalous” among chip makers and SEP holders,¹⁵ which is an odd claim because Qualcomm is the only company in the relevant marketplace that both sells chips and has a SEP licensing business.

10 FTC Complaint, supra note 2, ¶ 56 (referring to a study of declared LTE SEPs that found Qualcomm had a 13 percent share of “highly novel” essential LTE patents).

11 Id. ¶ 54.

12 Id. ¶ 3.a.

13 Id. ¶ 4.

14 Id. ¶ 87.

15 The fact that such practice is anomalous is irrelevant to whether this is an antitrust claim and also explained by the fact that Qualcomm is the only vertically integrated company with a SEP licensing practice.

Although the redacted public version of the complaint never expressly alleges a margin squeeze, in her dissent now-Acting Chairman Ohlhausen characterized the FTC's "tax" allegations as a price squeeze.¹⁶ Regardless, as Ohlhausen explains, the FTC's failure to allege that Qualcomm engaged in predatory pricing of any kind (presumably of chipsets), as required under the Supreme Court's decision in *Pacific Bell Telephone, Inc. v. Linkline Communications, Inc.*, is fatal to a price squeeze claim.¹⁷

The FTC never explicitly alleges tying, either, but the "no-license, no chip" allegations seem most akin to a tying or bundling claim. There are two fundamental problems with a tying theory, however. First, and again as Acting Chairman Ohlhausen pointed out in her dissent, "the complaint fails to allege that Qualcomm charges more than a reasonable royalty."¹⁸ Indeed, the FTC fails to allege that Qualcomm charges supra-FRAND royalties, and instead relies upon alleged characterizations by OEMs, stating that "[m]any OEMs regard Qualcomm's royalties as non-FRAND."¹⁹

In a recent paper, Jorge Padilla and Koren W. Wong-Ervin show through a simple model that a vertically integrated firm's *de facto* bundling of a component and its SEP portfolio will not result in foreclosure of the component market if: "(i) the vertically integrated SEP holder does not assert its patents at the component level, and (ii) it licenses its SEP portfolio to end-device manufacturers on FRAND terms irrespective of whether they source components from its own subsidiary or from the non-integrated rival."²⁰ As they explain,

Intuitively, when (i) and (ii) hold, the bundle offered by the vertically integrated SEP holder can be replicated competitively by end-device manufacturers by mixing and matching the component sold by the non-integrated component supplier and the patent portfolio of the integrated SEP holder. In other words, the bundle is effectively constrained by the unbundled products and vice versa and, hence, it causes no distortion of the competitive process.²¹

The FTC does not allege that either of the two conditions identified by Padilla and Wong-Ervin is violated. When it is possible to obtain a license to declared SEPs on FRAND terms separate from purchasing components, the vertically integrated firm's offering of a bundle or a separate license does not affect competition.

This is because the essential patents (the bundling products) are offered on a stand-alone basis (i.e. outside the bundle) on competitive terms and, therefore, the end product manufacturers can choose either the bundle of the vertically integrated SEP holder or create their own bespoke bundle by purchasing the component from a non-integrated component manufacturer and still license the SEPs of the vertically integrated SEP holder on fair and reasonable terms. As a result, the bundle is effectively constrained by the unbundled products and vice versa and, hence, it causes no distortion of the competitive process.²²

Second, the one-monopoly-profit theory suggests that Qualcomm would be unable to increase its profits by collecting rents on the tied product (the license) because the license and the chips are used in fixed proportions. If the same consumers are buying both products in a fixed proportion, then the total price will determine both the monopolist's pricing decisions and hence consumer sales.²³ Therefore, the monopolist would have to lower the price of the tying product (the chips) to keep the price for the two products

16 See Dissenting Statement of Commissioner Maureen K. Ohlhausen, *supra* note 3 at 1.

17 *Id.* at 1-2 (citing *Pacific Bell Telephone, Inc. v. Linkline Communications, Inc.*, 555 U.S. 438, 453 (2009)).

18 *Id.* at 1.

19 FTC Complaint, *supra* note 2, ¶ 76.

20 Jorge Padilla & Koren W. Wong-Ervin, *Portfolio Licensing at the End-User Device Level: Analyzing Refusals to License FRAND-Assured Standard-Essential Patents at the Component Level* (July 7, 2016), <https://ssrn.com/abstract=2806688> (forthcoming in ANTITRUST BULLETIN).

21 *Id.* at 2.

22 *Id.* at 19.

23 "Put simply, the single monopoly profit theory posits that, under certain market conditions, a firm with monopoly power in the tying market maximizes profit by charging a competitive price in the tied market. This pricing incentive holds even if the firm is the sole seller in the tied market. Consequently,

at the profit-maximizing level. As such, the motive for the tie could not be to monopolize the market for the tied product. Rather, the firm must be using the tie for some other purpose, such as price discrimination or to reduce transaction costs.²⁴

B. Alleged Refusal to License at the Component Level

The FTC alleges that “Qualcomm’s refusal to license competing manufacturers of baseband processors, in contravention of its FRAND commitments, contributes to its ability to tax its competitors’ sales and maintain its monopoly.”²⁵ The FTC made no allegation, however, of the pretext necessary under the applicable case law to overcome the presumption that a patentee’s refusal to license is lawful. As the U.S. Court of Appeals for the Ninth Circuit said in *Image Technical Services, Inc. v. Eastman Kodak Co.*, “a monopolist’s desire to exclude others from its [protected] work is a presumptively valid business justification for any immediate harm to consumers,” and that presumption may be rebutted only by evidence of pretext.²⁶

The FTC appears instead to have based its refusal to license theory solely upon Qualcomm’s alleged breach of the FRAND assurance, without alleging either that Qualcomm unlawfully acquired or maintained power in the markets for SEPs or that its refusal to license was by itself exclusionary. This position is at odds with the Supreme Court’s teaching in *NYNEX Corp. v. Discon, Inc.*, that the evasion of a pricing constraint alone does not constitute an unlawful acquisition or exercise of monopoly power.²⁷ The Court distinguished the evasion of a pricing constraint from the unlawful acquisition or exercise of monopoly power by pointing out that “consumer injury naturally flowed . . . from the exercise of market power that is lawfully in the hands of a monopolist.”²⁸ Assuming that the FTC’s allegations are proven in court, as Bruce Kobayashi and Joshua Wright have explained, “a SEP holder[’s] attempts to renegotiate or deviate from the original FRAND commitment made in good faith . . . to obtain higher royalty payments” amount to no more than post-contractual opportunism.²⁹ That conduct “is properly analyzed under contract, not antitrust law.”³⁰

The notion that the evasion of a FRAND assurance alone amounts to a standalone violation of the prohibition of unfair methods of competition (“UMC”) in Section 5 of the FTC Act claim also conflicts with the FTC’s 2015 *Statement of Enforcement Principles Regarding “Unfair Methods of Competition.”*³¹ As Koren Wong-Ervin and Joshua Wright have explained:

The Statement sets forth three basic principles to limit and guide future applications of the Commission’s standalone unfair methods of competition authority. The primary thrust of these principles is to link the FTC’s standalone authority to the rule of reason as applied under the traditional antitrust laws and to not apply Section 5 to conduct if the U.S. antitrust laws (the Sherman Act or the Clayton Act) are sufficient to address the competitive concern at issue. Given U.S. case law on holdup by patent holders, which requires *ex ante* deception and but-for causation (i.e., but for the alleged

according to this theory, if we observe tying, then it must be for a reason other than to leverage market power.” INTERNATIONAL COMPETITION NETWORK UNILATERAL CONDUCT WORKBOOK CHAPTER 6: TYING AND BUNDLING 18-19 (April 2015), <http://www.internationalcompetitionnetwork.org/uploads/2014-15/icn%20unilateral%20conduct%20workbook%20-%20chapter%206%20tying%20and%20bundling.pdf>.

24 Alden Abbott & Joshua D. Wright, *Antitrust Analysis of Tying Arrangements and Exclusive Dealing*, ANTITRUST LAW AND ECONOMICS 10 (Keith N. Hylton, ed., Forthcoming). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1145529.

25 FTC Complaint, supra note 2, ¶ 115.

26 *Image Technical Services, Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1218 (9th Cir. 1997) (citing *Data General Corp. v. Grumman Systems Support*, 36 F.3d 1147, 1187 (9th Cir. 1994)).

27 See *NYNEX Corp. v. Discon, Inc.*, 525 U.S. 128, 135-37 (1998).

28 *Id.* at 136.

29 Bruce H. Kobayashi & Joshua D. Wright, *Federalism, Substantive Preemption, and Limits on Antitrust: An Application to Patent Holdup*, 5 J. COMPETITION L. & ECON. 469, 519–20 (2009), also available at: <http://ssrn.com/abstract=1143602>, page 25.

30 Joshua D. Wright & Douglas H. Ginsburg, *Comment on the Canadian Competition Bureau’s Draft Updated Intellectual Property Enforcement Guidelines* 8 (Sept. 3, 2015), <https://ssrn.com/abstract=2655754>.

31 U.S. FEDERAL TRADE COMM’N, Statement of Enforcement Principles Regarding “Unfair Methods of Competition” Under Section 5 of the FTC Act (Aug. 13, 2015), https://www.ftc.gov/system/files/documents/public_statements/735201/150813section5enforcement.pdf.

deception, the SDO would not have adopted the technology at issue), the Sherman Act precedent will likely preclude future applications of Section 5 to patent holdup cases under the Statement.³²

The FTC also failed to analyze the relevant SDO's policy on Intellectual Property Rights ("IPR"). As pointed out elsewhere, "[w]hile the debate often refers to 'the [F/]RAND commitment' as if it were a monolithic promise, there are in fact subtle, but important, differences" among SDOs with regard to IPR policy.³³ Indeed, SDO contract terms vary both across organizations and over time.³⁴ As the U.S. Court of Appeals for the Federal Circuit explained in *Ericsson v. D-Link* (a patent damages action), a court must consider the specific IPR Policy or FRAND assurance at issue.³⁵ Many SDO IPR policies are silent on whether a patent holder must license at all levels of the production chain.³⁶ At least one major SDO, the European Telecommunications Standards Institute ("ETSI"), requires licensing only to "any system, or device fully conforming to a standard" at issue. Padilla and Wong-Ervin explain that ETSI's policy does not imply, much less require, licensing at all levels of the value chain given that cellular standards, which are covered by ETSI, do not specify the circuitry of a chip; they specify how an operational cellular device must respond to and interact with a cellular network. Separate components cannot respond to and interact with a cellular network, and thus cannot conform to any cellular standard. There are suites of tests for determining whether a device is "fully conforming" to a standard, and no separate component could pass any of these tests.³⁷

C. Alleged De Facto Exclusive Dealing with Apple

With regard to its exclusive dealing claims, the FTC alleges "Qualcomm's 2011 and 2013 agreements with Apple were, and were intended by Qualcomm to be, *de facto* exclusive deals that were as effective as express purchase requirements and that effectively foreclosed Qualcomm's competitors from gaining baseband processor business at Apple."³⁸ As described in the FTC's complaint, those agreements made partial relief from allegedly excessive royalties conditional upon Apple's using exclusively Qualcomm baseband processors for new iPhones and iPads, and allegedly provided that "[i]f Apple launched a new handset with a non-Qualcomm baseband processor, it would forfeit all future incentive payments and, depending on when a handset launched, could be required to refund past incentive payments."³⁹ Here the FTC's complaint is that,

Qualcomm's agreements with Apple prevented Qualcomm's competitors from attaining . . . benefits [such as achieving "a scale of business that confers research-and-development flexibility, among other things"] during the term of the exclusivity period. The agreements also allegedly foreclosed competition for a substantial share of the market for premium LTE baseband processors.⁴⁰

The FTC's allegation of substantial foreclosure is wholly dependent upon what appears to be a narrow definition of the relevant market, namely a market limited to "premium" LTE baseband processors. For a premium market to matter to competition, other suppliers of baseband processors would have to be unable to develop organically into effective competitors by first making non-premium processors.

32 Koren W. Wong-Ervin & Joshua D. Wright, *Intellectual Property and Standard Setting*, 17 *Federalist Soc'y Rev.* 46, 50 (Oct. 2016) (internal citations omitted), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2878955.

33 Anne Layne-Farrar & Koren W. Wong-Ervin, *An Analysis of the Federal Circuit's Decision in Ericsson v. D-Link*, *CPI ANTITRUST CHRONICLE* 3 (March 2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2669269.

34 *Id.* at 3.

35 *Ericsson, Inc. v. D-Link Systems, Inc.*, 773 F.3d 1201, 1235 (Fed. Cir. 2014).

36 Padilla & Wong-Ervin, *supra* note 20, at 11.

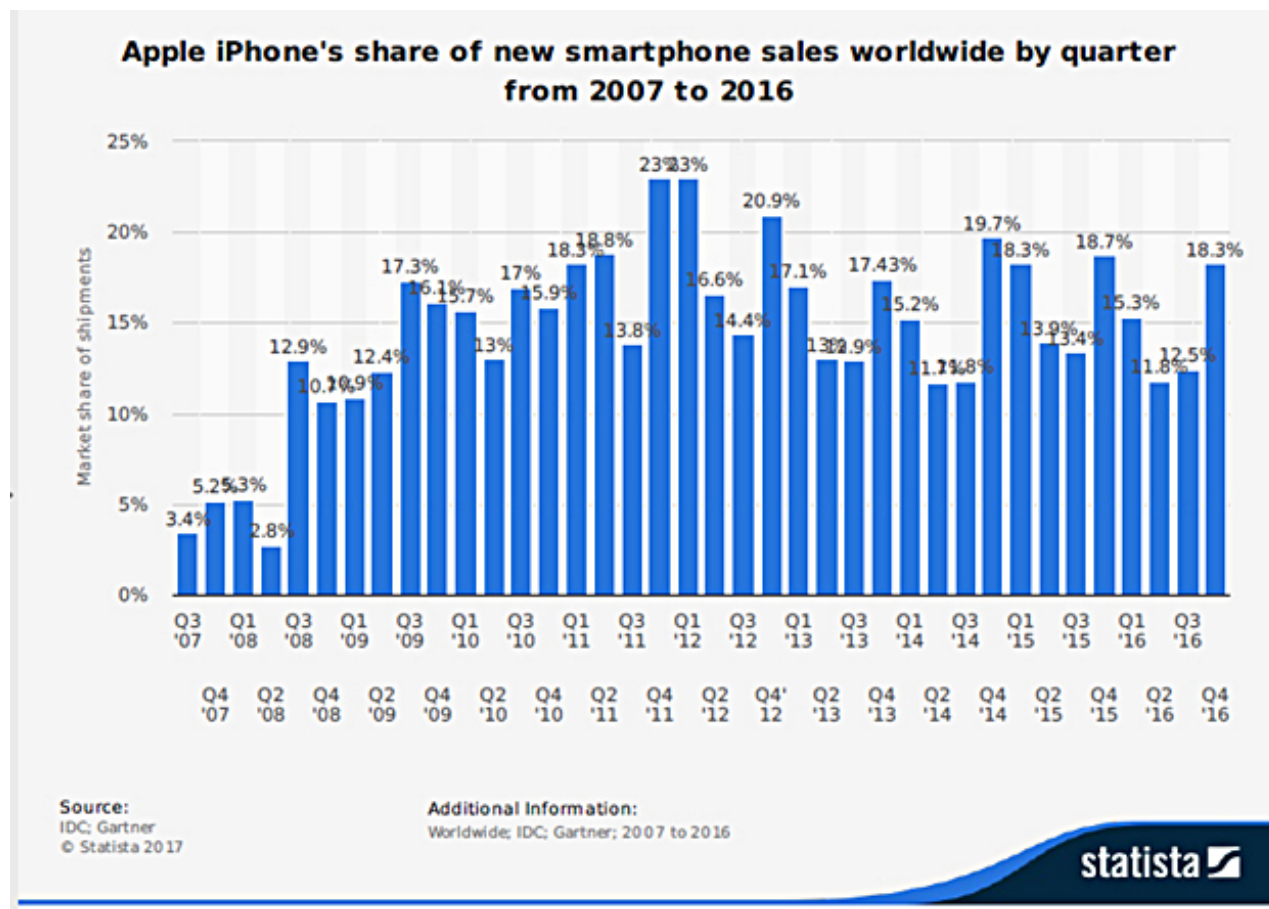
37 *Id.*

38 FTC Complaint, *supra* note 2, ¶ 125.

39 *Id.* ¶ 121-23.

40 *Id.* ¶ 130.

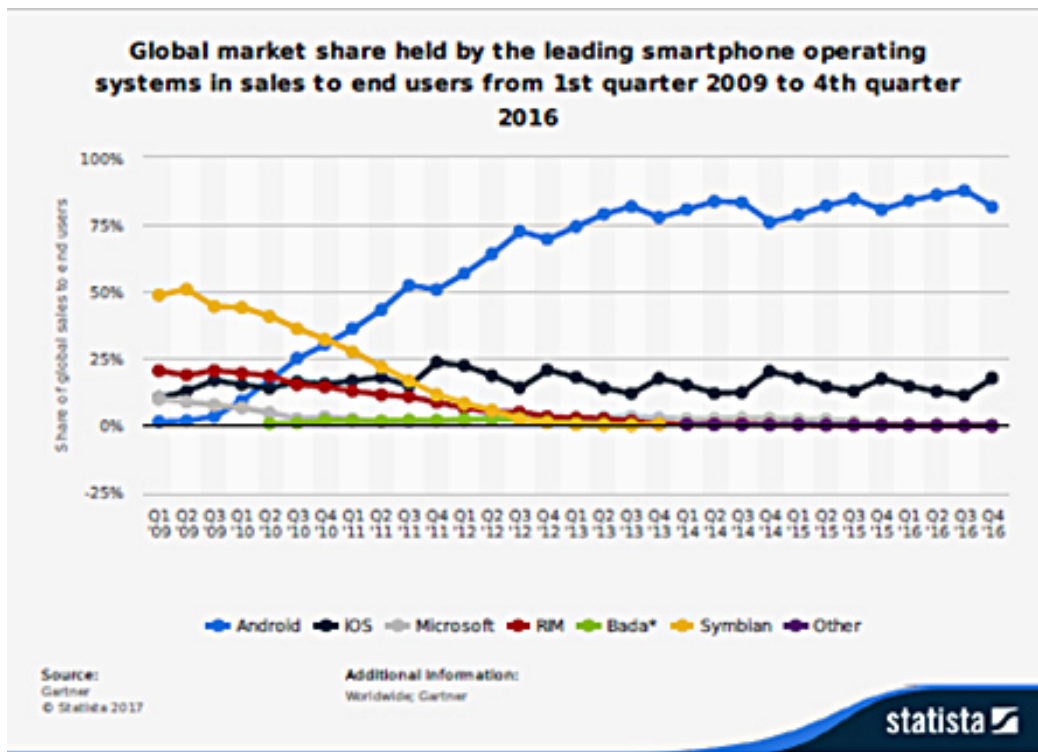
The FTC's complaint does not provide information about Apple's market share at the time of the allegedly anticompetitive arrangements. However, publicly available information on global shares of the market for new smartphones shows that in 2011 and 2013, when Qualcomm and Apple entered into the agreements at issue, Apple accounted for less than 20 percent of new smartphone units sold worldwide.⁴¹



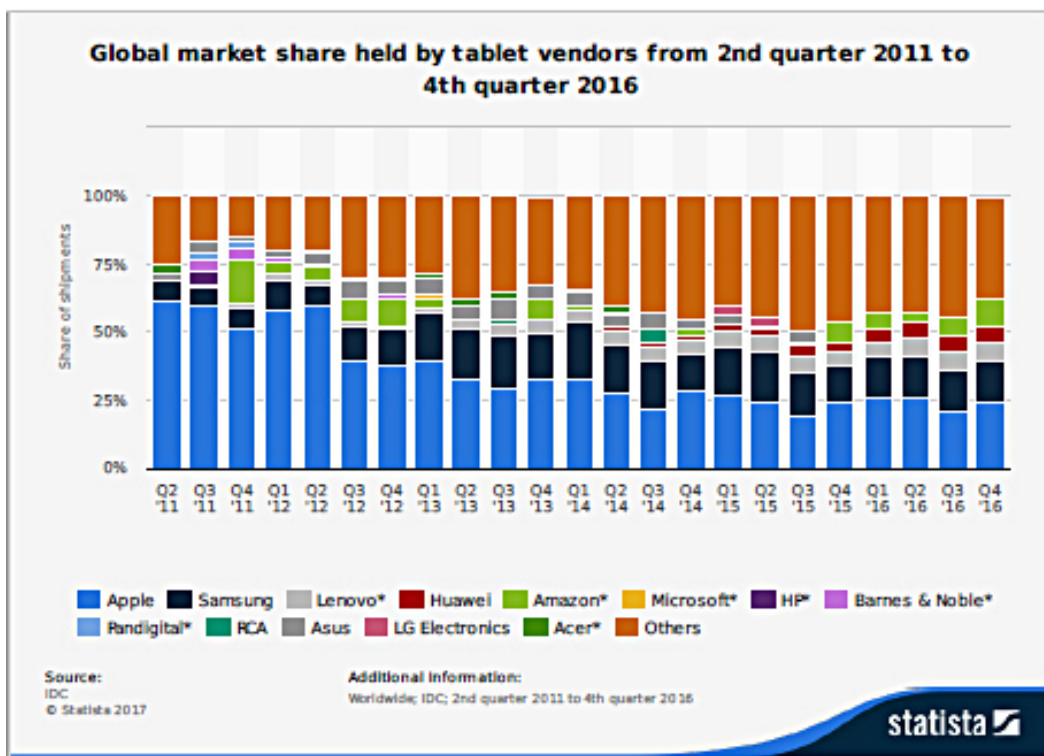
Global market share by operating system also shows that Apple supplied no more than a modest portion of the smartphone market in 2011, in 2013, and between 2011 and 2016. Based upon these shares, Qualcomm's exclusivity arrangement with Apple could not have prevented "other baseband processor suppliers ... from develop(ing) into effective competitors" in the market for premium LTE baseband processors. Nearly 80 percent of the market was available to Qualcomm's rival suppliers of baseband processors. A 23 percent or less share of the market is far from "substantial." Indeed, Apple's share of the global market in worldwide smartphone sales was below the U.S. Department of Justice Antitrust Division's 30 percent safe harbor for exclusive dealing arrangements.⁴²

41 As shown in the table, Apple iPhone's market share for Q1 '11 was 18.3%. For Q2 '11 Apple's share rose to 18.8%, and then dropped to 13.8% in Q3 '11. Only after the exclusive arrangement was reached (presumably prior to the exclusive sourcing that started Oct. 2011), did Apple's market share even cross the 20% mark to 23% in Q4 '11. In 2013, when Qualcomm and Apple revisited their arrangement, Apple iPhone's market share of new smartphone sales ranged from 12.9-17.43%. In the intervening year between the agreements, market share by quarter ranged from 14.4 to 23%.

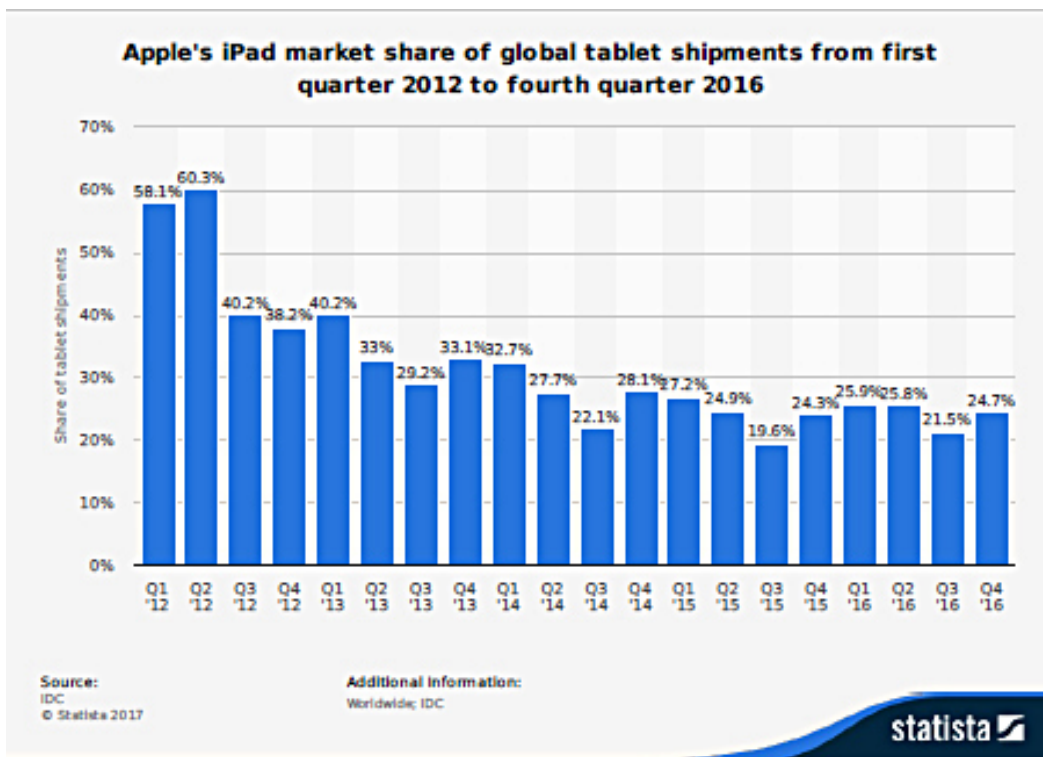
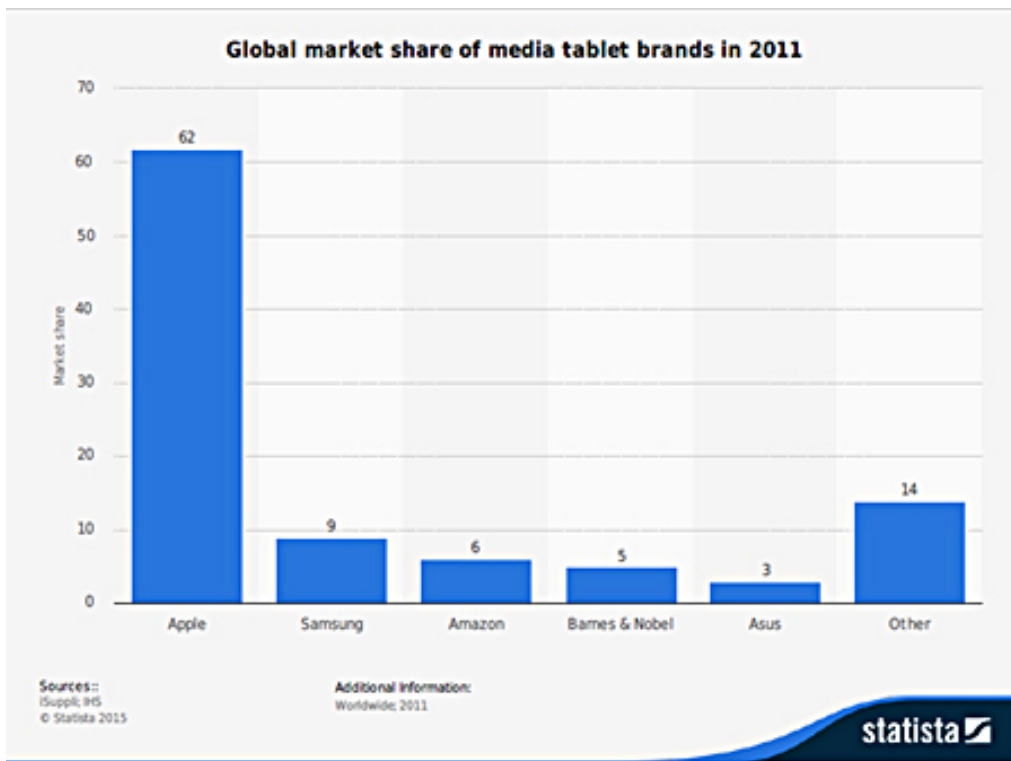
42 "The Department believes that exclusive-dealing arrangements that foreclose less than thirty percent of existing customers or effective distribution should not be illegal." U.S. DEP'T OF JUSTICE, COMPETITION AND MONOPOLY: SINGLE-FIRM CONDUCT UNDER SECTION 2 OF THE SHERMAN ACT: CHAPTER 8 EXCLUSIVE DEALING 141 (2008), https://www.justice.gov/sites/default/files/atr/legacy/2008/09/12/236681_chapter8.pdf.



Apple did have a substantial (61.5 percent) share of the tablet market in Q2 '11, but the FTC does not allege that tablet chips are a separate market from phone chips. As a result, market share data in the tablet market do not accurately represent Apple's share of the relevant chip market at the relevant time.⁴³



⁴³ Apple's share of the global tablet industry declined to 40.2 percent in Q1 '13 and by Q4 '13 was only 33.1 percent.



In summary, with perhaps the exception of the *de facto* exclusive dealing claim (which, as we have shown, is fundamentally flawed), none of the conduct alleged by the FTC is unlawful on its own.

III. THE KFTC DECISION

For its part, the KFTC determined that Qualcomm was dominant in the 2G, 3G and 4G SEP markets as well as the market for CDMA modem chipsets. Based upon that determination, the KFTC derived several theories of harm. These in turn depended upon the following findings:

- (1) Despite requests by competing **modem chip companies**, Qualcomm has **refused to license**, or **imposed restrictions on the license** for, the cellular SEPs that are necessary for the manufacture and sale of chipsets;
- (2) By linking the chipset supply with patent license agreements, Qualcomm has **coerced** the execution and performance of unfair **license agreements** by using its chipset supply as leverage, while circumventing FRAND commitment;
- (3) Qualcomm has provided handset companies with **only comprehensive portfolio licenses** and coerced unilaterally determined royalty terms without conducting a procedure to calculate fair compensation, while **coercing unfair agreements**, e.g., demanding handset companies to license their patents for free [emphases in original].⁴⁴

Like the FTC alleging antitrust violations and unfair methods of competition from Qualcomm’s “course of conduct,” the KFTC concluded that “[e]ach of the Conducts Organically Combines Together to Form One Unfair Business Model.”⁴⁵

Given the limited publicly available information about the KFTC’s decision, we focus our analysis upon the KFTC’s statements (in its press release) on SEPs and market power. The KFTC reasoned that “[a]s SEPs cannot be replaced by other technologies, a SEP holder gains complete power by holding even a single SEP” (while noting that Qualcomm holds “the largest number of SEPs”).⁴⁶ As explained elsewhere, however, this claim is fundamentally flawed.

First, “SEPs are self-declared to SDOs yet no SDO evaluates essentiality.”⁴⁷ Even firms making their best faith effort to identify essential patents in their portfolios are bound to make some mistakes. Moreover, when in doubt there are reasons for firms to err on the side of disclosure as potentially essential – namely the risk of FTC allegations of “patent ambush.” These forces tend to lead to “over disclosure.”

Second, essentiality can change over time for a number of reasons. Standards are developed over time, and the necessity of particular technologies will change as the standard evolves. Thus, what appeared to be essential at the time a patent holder declares certain patents essential may no longer appear so at the time the standard is finalized. As a result, an independent legal and technical review is necessary to establish whether a particular patent self-declared as “essential” is in fact essential for compliance with a standard when it reaches the commercialization stage.⁴⁸

Third, “one cannot perfunctorily conclude that an individual SEP or a portfolio of SEPs constitutes a well-defined relevant market or that the owner possesses market power.”⁴⁹ Every genuinely essential patent is needed to implement any given standard, rendering all essential patents what economists term “perfect complements,” meaning products that must be used together in fixed proportions. Because genuine SEPs are perfect complements, “SEPs cannot be licensed in isolation;” individual SEPs are valuable

44 KFTC Press Release, *supra* note 4, at 2.

45 *Id.* at 7.

46 *Id.* at 3.

47 Anne Layne-Farrar and Koren W. Wong-Ervin, *Standard-Essential Patents and Market Power*, GEORGE MASON LAW & ECONOMICS RESEARCH PAPER NO. 16-47 at 2 (Nov. 18, 2016), <https://ssrn.com/abstract=2872172>.

48 *Id.*

49 *Id.* at 2; Anne Layne-Farrar & Michael Salinger, *The Policy Implications of Licensing Standard Essential FRAND-Committed Patents in Bundles* (July 2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2846147 [hereinafter Layne-Farrar & Salinger].

only when used in combination with each other.⁵⁰ Because SEPs are FRAND-assured and perfect complements, license rates among the SEPs for a given standard are interdependent:

Specifically, royalty rates consistent with FRAND are tied to the value the patented technologies contribute to the standard, which inherently accounts for all valuable contributions to the standard (i.e., the value contributed by all other SEPs). In contrast to monopolists, who can set prices without consideration of other firms, SEP holders must take into account the value of other SEPs when setting their own royalty rates. Reinforcing this dynamic, firms taking a license to SEPs know they must license all SEPs to be compliant with the standard. As a result, licensees push back in negotiations if they feel an SEP holder is attempting to ask for more than its share.⁵¹

In other words, licensees manufacturing to a standard are aware of all potentially essential patent holders and know the universe of licenses they are likely to need to be compliant with the standard. This information provides licensees with countervailing bargaining power: no one makes a profit if the standard is not commercially successful, so all licensors have an incentive to moderate their royalty demands in order to ensure that commercial success.⁵²

IV. BOTH AGENCIES IGNORE THE WELFARE EFFECTS OF LICENSING END-USER DEVICES

The common thread throughout both the FTC's complaint and the KFTC's decision is that a refusal to license at the component level (at least by a vertically integrated firm) harms competition. Economic theory, however, shows this concern to be far narrower than either the FTC or the KFTC acknowledge. Gerard Llobet and Padilla show that, compared to per-unit component royalties, ad-valorem royalties based upon the price of the end-user device tend to decrease the prices paid by consumers, particularly in the context of successive monopolies, which result in double-marginalization. Specifically, they find that "[t]he resulting price in the final market is never higher under ad-valorem royalties. The reason is that ad-valorem royalties are more similar to fixed fees than per-unit royalties. As a result, they make the double-marginalization problem less severe, generating lower distortions in the final market."⁵³

They also conclude that ad-valorem rates tend to spur innovation. They tend to benefit upstream producers without hurting downstream producers. When there are multiple upstream developers with complementary innovations, "numerical results indicate that ad-valorem royalties typically work better because by increasing upstream profits they generate a positive feedback on the incentive to innovate of all parties."⁵⁴

Licensing at the end-user device level is a common industry practice. One reason is that it allows for easy monitoring and enforcement,⁵⁵ which reduces the transaction costs of licensing. Another reason for end-user device licensing is that the licensed patents may read on the system or device level, rather than the component level. Many SEPs related to wireless cellular technologies incorporated in 2G, 3G, and 4G standards are designed to optimize the wireless system and network; their value therefore reaches well beyond a specific component in the device. In fact, one study that examined a representative sample of patents in a large portfolio of SEPs owned by Ericsson found that more than 80 percent of the SEPs read on the cellular network or the end device, not on an individual component.⁵⁶

⁵⁰ Layne-Farrar & Salinger, *supra* note 49, at 7.

⁵¹ *Id.*

⁵² *Id.*

⁵³ Gerard Llobet & Jorge Padilla, *The Optimal Scope of the Royalty Base in Patent Licensing* 5 (Jun. 25, 2014), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2417216.

⁵⁴ *Id.* at 6-7.

⁵⁵ Layne-Farrar & Wong-Ervin, *supra* note 33, at 4-5.

⁵⁶ Jonathan D. Putnam & Tim A. Williams, *The Smallest Salable Patent-Practicing Unit (SSPPU): Theory and Evidence* at 41, tbl. 3 (Sept. 2016), <https://ssrn.com/abstract=2835617>.

In short, although competition agencies are charged with furthering consumer welfare. Both the FTC's Complaint and the KFTC's Decision seem to ignore the effects on consumer welfare of licensing at the end-user device level.

V. CONCLUSION

The FTC's lengthy complaint, with its suspect timing and fundamentally flawed allegations, appears to boil down to a complaint about excessive pricing, which is not actionable under U.S. antitrust law. While the two agencies' main theories of harm differ, both take issue with the common industry practice of licensing at the end-user device level, as opposed to licensing at some component level, although economic theory suggests that common practice leads to lower prices for consumers and spurs innovation.



INVESTIGATING COMPETITION CASES IN TAIWAN: THE INQUISITORIAL PRINCIPLE AND THE ABUSE OF SUPERIOR BARGAINING POSITION

BY ANDY C. M. CHEN¹



I. INTRODUCTION

As a world-renowned technology-producing island, Taiwan is among the most innovative countries in the world.² The value gained from implementing the intellectual property rights (“IPRs”) created by innovations or implementing those IPRs in collaboration with the IPRs licensed by innovators from other countries has significantly contributed to the economic development of Taiwan.³ However, the heavy reliance on IPRs has at the same time rendered Taiwan susceptible to IP arrangements that can evoke disputes over their competitive impacts on various markets.

In response to this concern, the Taiwan Fair Trade Commission (“TFTC”) is paying increasing attention to alleged anticompetitive IP licensing practices that could weaken the global competitiveness of Taiwanese high-tech companies. Recent issues concerning worldwide competition authorities, such as the determination of fair, reasonable and non-discriminatory (“FRAND”) royalties for standard essential patents (“SEPs”), the refusal to license SEPs or the bundled licensing of SEPs and non-SEPs, are also at the top of the TFTC’s investigation docket. Moreover, after years of interaction with more experienced jurisdictions like the United States and the European Union, the TFTC will likely refer to the theories of competitive harms adopted by those jurisdictions as its basis for investigations. Despite the ongoing convergence, however, procedural and substantive differences still exist that could shape an enforcement landscape of competition law in Taiwan that is different from that of the United States or the European Union.

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² Taiwan ranked fifth in 2014 and 2015 in terms of the number of invention patents that were granted by the U.S. Patent and Trademark Office (“USPTO”). It ranked first in terms of the number of patent applications per million people to the USPTO in 2015 and sixth in terms of patent impacts in 2014 and 2015. See CHOU PEI-HSIUAN, FENG LING-HUI & CHEN HSU-JEN, 2016/2017 WHITE PAPER FOR INDUSTRY TECHNOLOGIES 24-25 (TAIWAN INSTITUTE OF ECONOMIC RESEARCH, SEPTEMBER, 2016).

³ The overall expenditure of research and development was around three percent of the GDP of Taiwan, ranked eighth globally in the past six years. Chou et al., *id.*, at 17.

This paper describes the following two major differences and re-examines their implications for reviewing IPR cases under competition law in Taiwan: procedural rules for administrative investigations founded upon the inquisitorial principle, and the theory of superior bargaining position rooted in the concept of addressing unequal bargaining power in business transactions.

II. INQUISITORIAL PRINCIPLE AS THE OVERARCHING STANDARD

In Taiwan, both the Taiwan Fair Trade Act (“TFTA”) and IP legislation (patent, copyright, or trademark law) are classified as branches of administrative law. Decisions made by the TFTA are appealable to the administrative courts⁴ rather than to the general courts. This legal classification and institutional design is a reflection of the conventional thinking to treat administrative law as an independent body of law, with enforcement principles that may not be consistent with the spirit of fair trials and equality of arms, namely, the legislative and judiciary branches may be inadequate for dealing with certain social and economic matters that require swift solutions to complicated technical problems.⁵ With their experience and expertise, administrative agencies are better positioned than the legislative or judiciary branches to advance public interest. To facilitate the realization of this public interest goal, administrative agencies, by the authorization of law, typically enjoy a degree of privilege during the investigation process vis-à-vis the investigated parties.⁶ Adjudicatory and rule making powers are the most well-known privileges attesting to the “uniqueness” of administrative agencies and their actions.

In general, administrative law could be viewed as a body of law that aims to avoid the abuse of those privileges by administrative agencies while maintaining the flexibility of administrative discretion. In Taiwan, the Administrative Procedure Act (“APA”) is the law specifically enacted to attain this type of enforcement balance. Numerous provisions embodying the principle of due process protection have been established in the law. Nevertheless, the law also clearly declares the inquisitorial principle to be the overarching standard for the procedure of administrative investigations. Article 36 of the APA provides that “an administrative authority shall conduct inquisition regardless of any allegation which may have been made by the party.” But provisions granting due process protection are frequently followed by provisos allowing enforcement agencies to bar the application of those provisions based on their discretion. For example:

- The investigated parties may produce evidence or require the authority to investigate evidence, but the authority could deny with reasons such requests if *it deems the request unnecessary* (Art. 37);
- The investigated parties may apply to the authority to examine materials and records, provided that *it is necessary for the protection of the investigated parties’ legal rights* (Art. 46);
- Unless otherwise provided by law, the administrative agencies shall have the discretion to hold a public hearing (Art. 107).

The stress of the inquisitorial principle in the APA also reflects the view of treating substantive justice as more valuable than procedural justice under the civil law tradition. Procedural rules are treated as supplementary mechanisms to pursue substantive justice, and their application may be compromised in so far as substantive justice is achieved. This observation can be evidenced by Article 174 of the APA, in which the decisions or dispositions concerning procedural matters made by administrative agencies during investigations cannot be independently appealed to the administrative courts unless substantive issues have also been controverted and appealed, or otherwise provided by the law.

⁴ This includes the Intellectual Property Court which has jurisdiction over issues cutting across IP and the TFTA.

⁵ See PETER L. STRAUSS, TODD RAKOFF, ROY A. SCHOTLAND & CYNTHIA R. FARINA, ADMINISTRATIVE LAW: CASES AND COMMENTS 24 (9TH ED. 1995), CITING JAMES M. LANDIS, THE ADMINISTRATIVE PROCESS 7, 30-38, 46 (1938).

⁶ See YEH JUANN-RONG, WHEN TAIWAN CONFRONTS ADMINISTRATIVE PROCEDURE ACT: PROCEDURAL ESTABLISHMENTS FOR TAIWAN IN TRANSITION 127-28 (2ND ED. 2010).

III. INQUISITORIAL PRINCIPLE IN COMPETITION CASES

Articles 26 and 27 of the TFTA are the primary procedural provisions governing the investigation of competition cases in Taiwan. In addition to the TFTA, the TFTC has promulgated several administrative regulations to clarify the issues concerning investigation procedures, such as Regulation Governing Access to Materials and Files of the Fair Trade Commission, TFTC Guidelines on the Procedures of Public Hearings, and TFTC Guidelines on Holding Oral Debate Proceedings. Through these regulations, the TFTC aims to provide a transparent enforcement environment that conforms to the due process requirement for investigating competition cases. However, they are also bound by the inquisitorial principle established in the APA.

Under Article 26, the TFTC can initiate *ex-officio* investigations into conduct that might violate the TFTA and harm public interest. Article 27 authorizes the TFTC to notify the investigated parties and related third parties to appear before it, to submit relevant materials and documents, and to conduct on-site inspections. The TFTC may seize the materials and documents for evidentiary purposes, but the scope and duration of seizure are limited to what is necessary for investigating, inspecting, verifying or preserving evidence. Article 31 of the TFTA Enforcement Rules further provides that the TFTC needs to specify, *inter alia*, the matters to be investigated and the explanations or materials that the notified party is required to provide with respect to the investigation in its notice. The requests for access to materials and files is typically granted by the TFTC, but it can deny such requests if it deems access as an impediment to the TFTC's enforcement efforts to pursue the public interest.⁷ Although the investigated party can file a written application to the TFTC for holding a public hearing, a hearing shall be initiated by the Commission and shall be held only when the TFTC deems it necessary and approves the application.⁸ The investigated parties can also request to be present or to hold an oral debate proceeding, but such requests are subject to approval by the Commissioners' Meeting.⁹

IV. THEORY OF ABUSING SUPERIOR BARGAINING POSITION

In addition to typical antitrust violations, such as price collusion or abusive conduct undertaken by monopolists, whose legality under competition law typically hinges on market centered and effect-based analysis, Chapter 3 of the TFTA contains provisions purporting to regulate unfair competitive means for which market power or anticompetitive market impact may not be as decisive a reviewing factor as it is in antitrust cases. Article 25 of the TFTA, which prohibits enterprises from engaging in "deceptive or patently unfair conduct" that is "able to affect trading order," is the representative provision in this chapter. The key difference between Article 25 and other similar fairness oriented provisions is the "affecting trading order" requirements. As is emphasized by the TFTC in its Guidelines on Cases of Article 25 of the TFTA, conduct incapable of affecting trading order should not be examined under the TFTA. Instead, it should be governed by civil law or consumer protection legislation (Article 2 of the Guidelines). It is unclear from the article whether market power gained from market share held by an enterprise is a prerequisite for the enterprise to be able to affect trading order. The TFTC apparently holds that it is not. According to Article 5 of the Guidelines, market power is only one of the factors that the TFTC will take into account to determine whether trading order can be affected. Evidence showing the frequency of the alleged conduct being implemented, the existence of an information asymmetry problem between the implementing enterprise and its contracting counterparts, the warning or deterring effects on other enterprises generated by the unfair conduct, or the unavailability of alternate dispute resolving mechanisms in the market can also be examined by the TFTC in this regard.

The theory of abusing superior bargaining position ("ASBP") is another frequently applied theory by the TFTC to establish a firm's ability to affect trading order under Article 25. It represents the TFTC's intention to reconcile the discrepancy arising from attaching a divergent degree of importance to market power and effect-based analysis in antitrust and unfair competition cases. The ASBP theory intends to provide an approach that is based on the market rather than conduct-based analysis. However, the theory also attempts to incorporate fairness into the analytical framework by defining "market power" and "dominant position" differently from the conventional defining method. Under the ASBP theory, dominance and market power are not concepts that can be defined solely by comparing horizontally the economic power held by individual competitors in the market. Rather, market power can arise in

⁷ See Appendix II to the Regulation Governing Access to Materials and Files of the Fair Trade Commission.

⁸ See Article 5 of the TFTC Guidelines on the Procedures of Public Hearings.

⁹ See Article 2 of the TFTC Guidelines on Holding Oral Debate Proceedings.

the form of *reliance* between parties in a vertical transaction relationship, in the sense that one of the parties is unlikely or unable to deviate from the business relationship. In short, this is an economic power or dominance derived from the advantageous bargaining position a firm holds relative to its contractual counterparts.¹⁰

One of the challenges facing the ASBP theory is how to measure reliance and the degree to which it will render deviation from the existing relationship implausible. In a 2015 case involving government project bidding,¹¹ Dell Corporation of Taiwan was fined by the TFTC for entering into an arrangement with its distributors and retailers to not sell software designated by the government for this project to the winning bidder. According to sales data collected by an industry surveyor, the market share for the designated software was approximately three percent in the relevant market. Given this seemingly trivial market share, the TFTC still held that Dell possessed the market power to execute a boycott. Relying on the ASBP theory, the TFTC demonstrated that it would consider the possibility, sufficiency and reasonability of deviation from the existing relationship by the relying party to determine whether a superior bargaining position had been created by the alleged reliance. The possibility of deviation depends on the availability of other business channels for the relying party to obtain the required supplies. Whether deviation was sufficient depended on whether alternate supply channels were functionally substitutable for the products supplied by the relied-upon party. The reasonability of deviation would involve the evaluation of the risk and burden that would be borne by the relying party and the impact on its competitiveness if it switched to alternate supply channels. The TFTC concluded that once the software was designated by the government as essential for the project, it would be implausible for there to be any sufficient alternate supplies to make switching to other business channels by the winning bidders possible and reasonable.

V. INVESTIGATING IP-RELATED COMPETITION CASES: THE INQUISITORIAL PRINCIPLE

For international high-tech companies baffled or frustrated by the manner in which the TFTC has handled procedural matters in IP-related cases, understanding how the inquisitorial principle is incorporated into the procedural regulations in Taiwan to assist government in pursuing public interest may offer some clarification if not comfort to those companies. To narrow the gap between procedural protections used by different legal system requires global competition authorities to engage in constant and long-term dialogues to form a consensus on the optimal degree to which state power should be involved in regulating innovative behavior. Before this type of adjustment is made, it would be more practical for the investigated companies to argue around instead of against the inquisitorial principle. In accordance with this observation, it may be advisable for investigated companies to not only show that the TFTC's procedural disposition under the APA or the TFTA would raise due process concerns, but also to specify the type of substantive harms associated with the unwarranted exercise of discretionary power. This could be further testified by Article 174 of the APA, which predicates the appeal of procedural issues upon the appeal of substantive issues.

As Professor Sutherland cautioned half a century ago, the trust in administrative agencies' inquisitorial and discretionary powers and their contribution to public interest goals was based on the belief that "a discretionary government will be carried on by an assumed enlightened and apolitical elite. . . . The shortcoming of this view is its neglect of the possibility that a governing elite might be neither enlightened, nor apolitical, nor wisely selected."¹² The problems and costs from misapplying the inquisitorial power are particularly acute in IP-related cases because the highly dynamic nature characterizing the competition in high-tech markets frequently renders the review of substantive requirements, such as the existence of market power, the network effect and the extent of strategic foreclosure, not so much a journey of finding the ultimate truth as a process of making educated conjecture to minimize potential error costs. This trait in turn makes the determination by the competition agency more challenging and controversial regarding the "necessity" of allowing various requests by the investigated parties for procedural protection. To address this enforcement uncertainty, this paper suggest that competition agencies, including the TFTC, should not treat the inquisitorial principle for procedural matters as carrying a fixed enforcement intensity that mandates a uniform application of the principle to all types of cases. Rather, the degree of discretion that competition agencies are authorized to exercise should vary with the types of cases under investigation.

10 Therefore, ASBP is sometimes referred to as abuse of "relative market power" in Taiwan. See Wu Hsiu-Ming, *Relative Market Dominant Position from the Perspective of Reliance Theory* in WU HSIU-MIN, THE ORIGIN AND DEVELOPMENT OF COMPETITION LAW AND SYSTEM 426, 431-32 (2004).

11 Gong-Chu-Zi No. 104033. This is a boycott case governed by then Article 19 of the TFTA, not Article 25. But it was also an unfair competition case.

12 ARTHUR E. SUTHERLAND, THE LAW AT HARVARD: A HISTORY OF IDEAS AND MEN, 1817-1967, 305-306 (1967).

One practical criterion for determining the exercisable level of discretionary power is the various investigative obstacles facing various types of potential violations that might hinder the pursuance of public interest. Under this criterion, it may be more justifiable for the competition agency to enjoy a higher degree of procedural discretionary power in cartel cases than in cases of vertical restraints due to the difficulty of detecting violations and discovering evidence in the former.¹³

VI. INVESTIGATING IP-RELATED COMPETITION CASES: THE ASBP THEORY

The ASBP theory has been applied in a series of cases concerning licensing practices in the CD-R industry in Taiwan. For example, in one of these cases, CD-R patent holder Philips Co. requested its Taiwanese licensees to provide it with a “manufacturing equipment list” and a “written sales report.” The TFTC maintained that the patents held by Philips were essential technologies for the manufacture of CD-R. Thus, Philips enjoyed a superior bargaining position or relative market power over its licensees because deviations by the licensees to other alternate licensors were unlikely.¹⁴ Given that the information requested by Philips was competitively sensitive and that Philips was also a CD-R supplier, such a licensing requirement constituted patently unfair conduct under Article 25 (then Article 24). On appeal, the decision was reversed by the Taipei High Administrative Court on the grounds that the provided information was not competitively sensitive and was necessary for the determination of licensing royalties; however, the TFTC’s reasoning for Philips’ superior bargaining position was upheld by the court.¹⁵

The ASBP theory misguided the TFTC to equate economic reliance in a vertical relationship with the re-allocation of revenue by the party that held the better bargaining position to exclude and foreclose market competition. This is a problematic development for reviewing IP-related cases under the TFTA and deserves critical re-examination. A less confusing way of describing a vertical business relationship where one party has a strong economic reliance on its contractual counterparts and cannot deviate from the relationship is simply to say that the party is locked in that business relationship. If the party’s decision to enter this relationship was made with full information regarding its resulting consequences, “lock-in” in essence represents the binding effect of a valid contract. It should not raise any competition issue unless the relied upon party has a monopoly or dominant power pre-contractually to make transacting with alternate suppliers implausible. In fact, this point was recognized by the administrative court in the CD-R case. The court stressed in the decision that insofar as the licensees were aware pre-contractually of the indispensability of Philips’ CD-R patents and could foresee their duties under the licensing agreement, they should be prohibited from alleging post-contractually the lock-in effect resulting from the entering of the licensing arrangement and their inferior bargaining position as a competitive harm.¹⁶ It therefore could also be argued that a SEP holder’s market power should not be judged by merely referring to the indispensability of its patents *after* those patents become SEPs. Neither should the competitive harms from SEP licensing arrangements be inferred from the concern that the arrangements were negotiated between licensees and an unsubstitutable patent holder.

Opportunistic behavior by the SEP holders may be implemented after SEP licensing agreements are completed and economic reliance is created. However, an ongoing debate exists regarding whether this type of dispute should be treated as a contract law issue or competition law issue. Supporters of competition law argue that contract law gives the victims in ASBP cases the right to abrogate the contract and to seek damages, but is inadequate in addressing the core issue of these cases: the superior bargaining position held by the defendant.¹⁷ The risk and cost inherent in the contract litigation process may also dissuade victims from relying on contract law to challenge the reasonableness of licensing terms.¹⁸ However, the ASBP theory has its own, likely higher, costs.

13 See HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE* 888 (5TH ED. 2015).

14 Gong-Chu-Zi No. 095045; Gung-Chu-Zi No. 100012.

15 Judgment Su-Zi No. 3612 (Taipei High Administrative Court, 2007).

16 *Id.*

17 Albert A. Foer, *Abuse of Superior Bargaining Position (ASBP): What Can We Learn from Our Trading Partners?* AAI Working Paper No. 16-02 (September 29, 2016).

18 *Id.*

First, the loosely defined “reliance” would subject the TFTC’s decisions to critiques of being subjective and arbitrary, and could thereby evoke more challenges of those decisions. Concurrently, neglecting horizontal market power and zeroing in on unique vertical business characteristics to establish market dominance may lead to an excessively broad inclusion of the types of acts that have the potential to create reliance, but in effect are competitively neutral or even beneficial. Gradually, this could erode the foundation of competition law enforcement: to protect competition, not competitors. Furthermore, unless the competition agency can devise certain objective or quantifiable criteria similar to market share or concentration ratio to measure the degree of economic reliance and the plausibility of deviation, application of the ASBP theory is destined to be a highly ad hoc and lamentably fact intensive enforcement process. Contract litigation in court proceedings under the adversarial principle has the comparative advantage over the administrative investigation process characterized by the inquisitorial principle to ensure the persuasiveness of judgments on the probative value of evidence and the impartiality of the final decision. Finally, if a technology or a patent is so essential to licensees that it is impossible for them to deviate from the licensing relationship with the patent holder, this implies that the relevant market in this case should be narrowly defined to include only the essential patent holder in the market. Any exclusionary arrangements imposed by the patent holder monopolist to its licensees could be reviewed under the conventional analytical framework for abuse of monopoly power. It is not necessary to rely on the ASBP theory to contain the potential harms from the exploitation of advantageous bargaining positions.

VII. CONCLUSION

Although a trend is growing toward the convergence of global competition law, differences in law and institutional designs still exist among different jurisdictions. This paper describes two main differences in Taiwanese law that may influence its competition agency to approach the same competition issues with different enforcement principles from other jurisdictions. As the analysis has demonstrated, this paper suggests that the exercise of inquisitorial power by the TFTC be limited and cautioned against using the ASBP theory to establish a market power requirement in competition cases. Despite the proposal for reforms, it is unlikely to see significant changes mirroring the proposal in the short term because this requires adjustments of deep-rooted views toward the function of procedural rules and the legislative purpose of competition law. Still, this paper may benefit the business community by assisting them to design more practical legal compliance programs and to better control the risk of violating the TFTA in Taiwan.





MEASURING THE IMPACT OF INJUNCTIVE RELIEF ON INNOVATION

BY JOHN M. TALADAY ¹



I. INTRODUCTION

In recent years, we have seen antitrust authorities take a dim view of patent holders, especially owners of standard-essential patents (“SEPs”), seeking injunctions against purportedly unwilling licensees. The result is a strong signal and arguably a policy that an SEP owner seeking an injunction faces a significant risk of facing an antitrust challenge. Indeed, the agency actions to date have significantly deterred SEP owners from seeking injunctions. While there has been discussion on both sides of this argument regarding the potential impact of SEP negotiations and injunctions on innovation, there has not been an effort to measure the impact of this “no injunction” policy on innovation investment.

This article considers the impact of injunctions, or more specifically the lack of the availability of an injunction, on an innovator’s investment decisions.² It concludes that: (1) it is possible to measure the impact that a “no injunction” in patent infringement actions will have on innovation investment, and that (2) such a policy will necessarily reduce investment in innovation. The reduction in investment is caused by the delay in receipt of licensing revenues that will result from eliminating the potential for injunctions, because this delay will negatively affect the inventor’s expected return on investment.

The article also considers whether potential awards of interest in patent infringement actions, as an alternative to potential injunctions, will offset this effect and concludes that interest awards are inadequate to eliminate the reduced incentive to invest in innovation.

In more simplistic terms, we can observe that with no threat of an injunction, the pressure to conclude a licensing negotiation is off, and licensing negotiations will take more time to complete. This additional time slows down the stream of revenue that will flow to the inventor. That slow-down reduces the return that the inventor can expect and will cause some of the projects within an inventor’s portfolio to become unprofitable and not worth the investment.

¹ John Taladay is Co-Chair of the Antitrust and Competition Law Practice at Baker Botts LLP. The author would like to thank Jane Antonio and Donna Loop for their assistance in the preparation of this article.

² While this analysis may be most applicable in an SEP setting, it is not limited to that context.

II. INNOVATION INCENTIVES AND ANTITRUST

Antitrust and intellectual property law are often said to be compatible in that they are both supposed to encourage innovation.³ The intellectual property laws do so directly, by creating a period of time in which the inventor can exclude others and exploit its invention, reaping whatever profits are attributable to the invention. The antitrust laws do so less directly, by tolerating this right to exclude.⁴

The need to protect the incentives to invest in technology have long been recognized in the antitrust community. More than 20 years ago, AAG Bingaman noted that “technology is the driving force in the U.S. economy today. And it is clear that without intellectual property rights that assure a return on investment in innovation, that force would wane. Consequently, one simply cannot speak of an antitrust policy without a coherent policy toward intellectual property.”⁵

But the antitrust laws also place limits on the permissible scope of exclusion, and U.S. and foreign enforcers have more recently waded more aggressively into enforcement, particularly regarding SEPs, with views on whether specific tactics may be anticompetitive. Despite earlier warnings, this is often done either without consideration of the impact on return in innovation investment, or on the assumption that since the costs of innovation in the particular invention are already “sunk,” there is no potential adverse impact.

One area in which regulatory authorities have jumped in with both feet relates to the permissibility of an SEP holder seeking injunctive relief. For example, in *In the Matter of Robert Bosch GmbH*, the FTC found reason to believe that SPX Service Solutions U.S. LLC (“SPX”) harmed competition by reneging on a commitment to license SEPs on FRAND terms by seeking injunctions against willing licensees of those patents.⁶ The FTC asserted that “SPX’s suit for injunctive relief against implementers of its standard essential patents constitutes a failure to license its standard-essential patents under the FRAND terms it agreed to while participating in the standard setting process, and is an unfair method of competition actionable under Section 5 of the FTC Act.”⁷ Although this issue arose in a merger review that did not directly implicate injunctive relief, the Commission extracted a remedy (ironically a *de facto* injunction) requiring Bosch to forego any further efforts to seek an injunction in its efforts to enforce its IP rights.

In *In the Matter of Motorola Mobility LLC and Google, Inc.*, the FTC alleged that Google reneged on its FRAND commitments and pursued — or threatened to pursue — injunctions against companies that were willing to license the relevant SEPs on FRAND terms.⁸ The FTC approved a final order prohibiting Google from seeking injunctive relief unless it takes a series of steps including (1) providing a potential licensee with a written offer containing all of the material license terms necessary to license its SEPs, and (2) providing the potential licensee with an offer of binding arbitration to determine the terms of a license.⁹ The consent order also

³ “[T]he aims and objectives of patent and antitrust laws may seem, at first glance, wholly at odds. However, the two bodies of law are actually complementary, as both are aimed at encouraging innovation, industry and competition.” *Atari Games Corp. v. Nintendo of Am., Inc.*, 897 F.2d 1572, 1576 (Fed. Cir. 1990); see also *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346, 1362 (Fed. Cir. 1999) (“The patent and antitrust laws are complementary, the patent system serving to encourage invention and the bringing of new products to market by adjusting investment-based risk, and the antitrust laws serving to foster industrial competition.”).

⁴ According to Judge Douglas Ginsburg, “The point of the antitrust laws is not to restrict patent rights. . . . It is to ensure that a patent holder does not go beyond the legitimate right to exclude in order to stifle the competition. The solution is to clarify as much as possible where that legitimate right to exclude begins and ends.” Leah Nylen, *Antitrust Not a Good Way to Address SEPs, Patent Trolls, Judge Says*, MLex (Nov. 8, 2014), available generally at: www.mlexmarketinsight.com.

⁵ Eleanor M. Fox, Alan H. Silberman, Phillip A. Proger & Robert C. Weinbaum, *60 Minutes with Anne K. Bingaman, Assistant Attorney General, Antitrust Division, U.S. Department of Justice*, 63 ANTITRUST L.J. 323, 332 (1994).

⁶ Analysis of Agreement Containing Consent Orders to Aid Public Comment, *In the Matter of Robert Bosch GmbH*, File No. 121-0081 (Apr. 24, 2013), available at: www.ftc.gov/sites/default/files/documents/cases/2013/04/121126boschanalysis.pdf.

⁷ Id.

⁸ Complaint, *In the Matter of Motorola Mobility LLC and Google, Inc.*, File No. 121-0120 (FTC July 24, 2013), available at: www.ftc.gov/sites/default/files/documents/cases/2013/07/130724googlemotorolacmpt.pdf.

⁹ Analysis of Proposed Consent Order to Aid Public Comment, *In the Matter of Motorola Mobility LLC and Google, Inc.*, File No. 121-0120 (F.T.C. Jan. 3, 2013),

provided potential licensees with a voluntary negotiation framework that they could opt into to negotiate license terms. The order identified only a few narrowly-defined circumstances when Google would be allowed to seek injunctive relief, such as when the potential licensee is not subject to jurisdiction in the United States or when it refuses to agree to terms set by a court or in binding arbitration.

These two cases reflect a view by the majority of FTC Commissioners at the time that an SEP owner who seeks an injunction is abusing its market power with anticompetitive effect. But neither of these decisions considers the impact on upstream innovation investment that flows from denying an inventor the possibility of an injunction.¹⁰

In contrast, courts have concluded that there is nothing inherently anticompetitive in an SEP holder seeking an injunction. In a U.S. federal decision at the appellate level, *Apple v. Motorola*, the U.S. Court of Appeals for the Federal Circuit affirmed the district court's denial of an injunction to the SEP holder, Motorola. In so doing, the court described the eBay standard as providing "ample strength and flexibility for addressing the unique aspects of [FRAND] committed patents and industry standards in general."¹¹ The court expressly rejected "a *per se* rule that injunctions are unavailable for SEPs [subject to a FRAND commitment]."¹² The court explained that "[a] patentee subject to [FRAND] commitments may have difficulty establishing irreparable harm. On the other hand, an injunction may be justified where an infringer unilaterally refuses a [FRAND] royalty or unreasonably delays negotiations to the same effect."¹³ The court recognized the need to balance between the competing interests of encouraging participation in standard-setting organizations while at the same time ensuring that SEPs are not overvalued.¹⁴ The court noted that district courts are "more than capable of considering these factual issues when deciding whether to issue an injunction."¹⁵

These different approaches reflect, perhaps, differing views by the IP and antitrust communities on the rationale for considering injunctive relief.

III. INNOVATION RETURN ON INVESTMENT

It is only rational to assume that investment decisions in the innovation field follow the same basic principles as other investments. Below we discuss and apply the basic elements of investment logic and how these considerations might play out in a typical setting involving IP and IP licensing.

A. Return on Investment

The need to obtain a return on investment ("ROI") is both a textbook principle and an investment reality. Whether viewing it from the perspective of an engineer within the confines of a big conglomerate seeking formal approval for an outlay of funds, or from the standpoint of a fledgling entrepreneur with a dream who is considering whether to spend the next two years locked-up in his garage, the ultimate question is the same: will the investment pay off? That question is answered through an evaluation, whether formal or informal, of the return on investment.

available at: www.ftc.gov/sites/default/files/documents/cases/2013/01/130103googlemotorolaanalysis.pdf.

10 The FTC's MMI complaint asserts that the challenged practices will adversely impact *downstream* innovation by raising the cost of licensing, but gave no consideration to the impact on *upstream* innovation. This seems shortsighted given that the potential for downstream innovation is derived entirely from upstream innovation. See Complaint, §3.

11 *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1332 (Fed. Cir. 2014).

12 *Id.* at 1331.

13 *Id.* at 1332.

14 *Id.*

15 *Id.*

Return on investment measures the gain or loss generated on an investment relative to the amount of money invested. ROI is typically used to compare the efficiency of different investments. The purpose of the ROI metric is to measure, per period, rates of return on money invested in an economic endeavor to decide whether to undertake an investment. It is also used as indicator to compare different project investments within a project portfolio.¹⁶

To calculate ROI, the net profit of an investment is divided by the cost of the investment, and the result is expressed as a percentage or a ratio.¹⁷

$$\text{ROI} = \frac{\text{Net Profit (Gain from Investment - Cost of Investment)}}{\text{Cost of Investment}}$$

This basic formula yields the answer to the question “will the investment pay off” but the calculation of the net profit and cost of investment often requires some additional analysis.

B. NPV

Except in the case of scratch-off lottery tickets, investment costs and gains are rarely instantaneous. Thus, an ROI analysis necessarily involves a time component and, accordingly, the need to consider the value of future cost and, particularly, revenue streams, reduced in form to a “present value.” A net present value (“NPV”) calculation is a basic concept in which the flow of all future revenue streams is discounted to account for the delay in time over which they will be received. Thus, while a dollar that is received in the present is worth a dollar, a dollar that won’t be received until next year is worth something less than a dollar, both because of the inflation that is expected to occur over that period of time, and the lost opportunity to invest that dollar over the same period. Thus, the “present value” of next year’s dollar is lower than the “present value” of today’s dollar and, therefore, next year’s dollar must be “discounted” to determine its “net” present value. The obvious question is by how much next year’s, and every successive years,’ dollars should be discounted.

C. Target Rate of Return

In considering an investment of risk capital, an investor will want to make a return on that capital that accounts not only for the time value of that money, but also for the risk that the individual investment (often within a portfolio of investments) won’t make a return at all. Typically, the greater the risk associated with the investment, the greater the return demanded.¹⁸ Within companies, this is often called the “target rate of return” or “hurdle rate” and reflects the level of return that must be anticipated before monies will be allocated to a project. The theory is that if the investment cannot generate at least that level of return, the money is better spent on something else that will generate that rate of return or, alternatively, better not spent at all.

Putting this all together, calculating the NPV of profits, incorporating the concept of expected return, implies the following formula:

$$\text{NPV} = \sum \{ \text{Net Period Cash Flow} / (1+R)^T \}$$

where R is the rate of return and T is the number of time periods. The expected ROI of a project would consist of the NPV of all expected profits, using the above formula, less the NPV of all investments, using an identical formula.

¹⁶ *Return on Investment (ROI)*, BUSINESSDICTIONARY, www.businessdictionary.com/definition/return-on-investment-ROI.html.

¹⁷ *Return on Investment (ROI)*, ENTREPRENEUR, www.entrepreneur.com/encyclopedia/return-on-investment-roi.

¹⁸ This is quite similar to betting on a horse race, where an investor will bet on a “longshot,” where the odds of winning are low, only if the expected return is particularly high.

IV. IMPACT OF INJUNCTIONS

The antitrust concern related to injunctions ties directly to the issue of bargaining power and whether allowing an IP holder, in particular an SEP holder, to threaten the use of an injunction distorts competition and allows the SEP holder to abuse the dominant position that may arise from their IP being included in the standard. In essence, the fear is that the implementer will have its feet held over the fire and be forced to pay higher royalty rates more immediately than otherwise would be the case. The FTC Complaint in Motorola concludes that "...manufacturers using Google's SEPs would be forced, by the threat of an injunction, to pay higher royalty rates..." Obviously, if this threat is to be avoided, these royalties must be paid before the application for injunction is addressed by a court. Otherwise, the risk would either be perfected or cease to exist. The flip side of the argument is that without a threat of injunction the implementer would have more time to negotiate and obtain a license at a lower royalty rate.

This article does not evaluate the assumption of higher royalty rates, but only the inherent delay caused by the lack of pressure to resolve the case when an injunction is not possible, for example because seeking an injunction has been deterred by the threat of antitrust repercussions.¹⁹

A. Measuring the Cost of Delay

If we conclude that the result of a "no injunction" policy is to cause a delay in the outcome of licensing negotiations, then it is clear that this delay will have an adverse impact on the inventor's ROI calculation. Moreover, if we assume that this no-injunction policy impacts all investments under consideration – because the chilling effect of antitrust enforcement applies to all investments in innovation related to potential SEPs – then it becomes clear that some investments will not be made.

To illustrate this point, we consider a standard scenario in three phases. The first phase occurs when the inventor is considering an investment in innovation that will require an up-front investment in an innovation and invents the new technology. In the second phase invention is patented, published and adopted into a standard. In the third phase, the inventor licenses that invention over time and gains licensing revenues that are expected to offset the initial investment and make an adequate return.

In the example below, the Phase 1 investment is \$25 and is made in Yr. 1. The Phase 2 implementation period, in which no innovation expenditures are made and no licensing revenues are received, takes 3 years, from Yr. 2 – Yr. 4 inclusive. The licensing period we assume begins in Yr. 5, ramps up through Yr. 8, then declines through Yr. 11 to zero in Yr. 12. This is intended to capture, perhaps, the increasing levels of adoption followed by decreasing adoption as new technologies take over. We utilize a modest 5 percent rate of return.

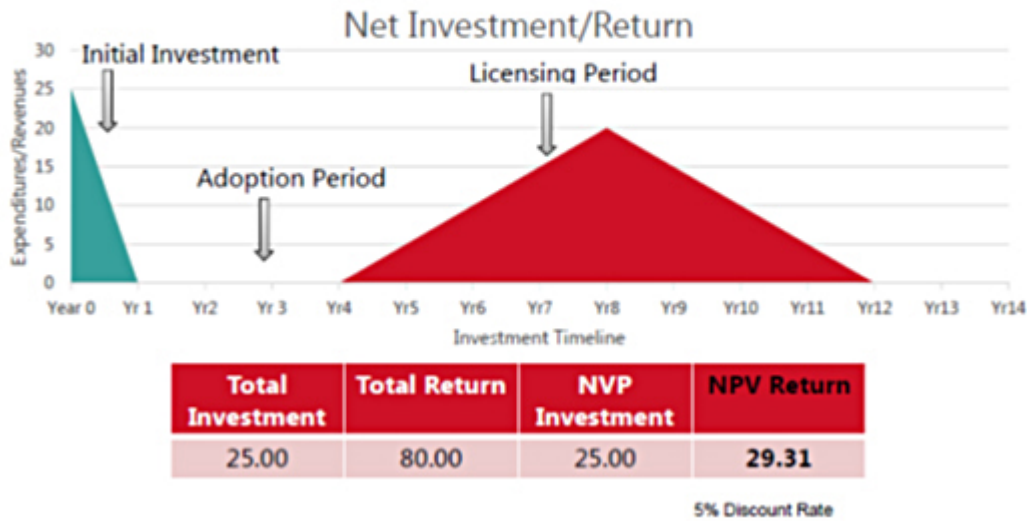
For returns we assume as follows:

Year	1	2	3	4	5	6	7	8	9	10	11	12
Profit / (Investment) in \$	(25)	0	0	0	5	10	15	20	15	10	5	0

Utilizing the 5 percent discount rate as the target rate of return, we would calculate the ROI on the \$25 investment would be \$29.31. This would represent a profit in excess of the discount rate of \$4.31, or a return that is 17.24 percent above the target rate of return. Thus, an investment with this ROI profile would gain approval and be funded (unless all other potential investments had a higher expected ROI).

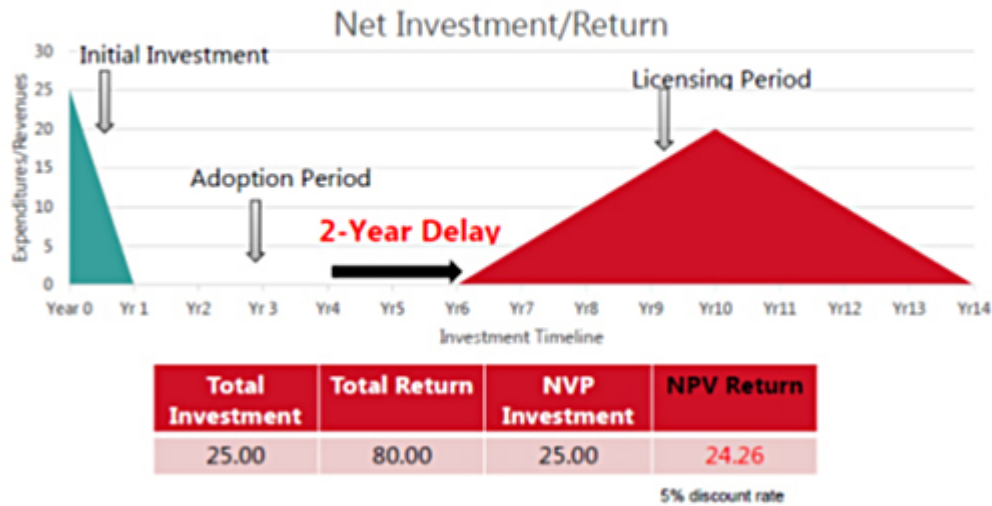
¹⁹ While the issue of higher royalty rates stemming from the threat of an injunction may be subject to debate, in the absence of empirical analysis, I assume that the high judicial standard for injunctive relief, and the equitable balance inherent in a Court's decision, imply that injunctions will not be granted inappropriately and, therefore, the parties will be able reasonably to evaluate, *ex-ante*, the risk value related to the possibility of an injunction. In other words, the serious offenders will know that they have a more significant risk of facing an injunction than the less serious or non-offenders.

NPV 1- Injunction Possible



In the second scenario, we assume only one change: that an injunction is not possible and that the lack of an injunction threat delays licensing revenues (on average for all licensees) by two years. We hold all else constant, assuming the same licensing revenues and the same distribution as in scenario 1, except that all licensing revenues are received two years later.

NPV 2: No Injunction Possible



As a result of this delay, the NPV of the stream of revenues drops, and the expected ROI decreases to \$24.26. This ROI is below the target rate of return and would not be funded.

While some of these assumptions may not be precise or even entirely realistic (for example, the target rate of return typically will be much higher), the model is not sensitive to the inputs, except to the degree to which the ROI is reduced. The results would always reflect that a delay caused by lack of access to injunctions would result in a decrease in the expected return on innovation investment and a reduction in innovation investment at the margins.

V. IMPACT OF POTENTIAL INTEREST AWARDS

One potential response to the above model is that an infringer who delays licensing will face the prospect of an interest award that will counteract the impact of that delay, making the inventor “whole” under the law and reestablishing the incentive to invest at the initial stages. A small degree of analysis reveals, however, that while an interest award might reduce the impact of delay on ROI (probably only modestly), it likely will never erase it. This is for a simple reason: the interest awarded in patent suits is necessarily lower than the company’s target rate of return. In other words, a court-ordered interest rate will never satisfy the return levels required by an inventor.

The company’s target rate of return reflects the basis for a company’s decision whether to invest. Thus, if the interest award matched the company’s target rate of return, the time delay would have no impact on ROI. But as discussed below, Courts have normally awarded interest based either on a prime interest rate or a rate reflected by treasury bills (the “T-Bill rate”). This rate will never be sufficient. We know this because: (1) the T-Bill rate is nearly always below the Prime Rate; (2) the Prime Rate is always below a company’s cost of capital; and (3) a company’s target rate of return is always above its cost of capital. We discuss these concepts below.

A. Court-Ordered Interest in Patent Cases

With the idea of making a patent owner “whole” the patent law permits an award of prejudgment interest from the date of infringement through the date of judgment.²⁰ The patent statute provides that “Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.”²¹

The latter passage, “as fixed by the court,” has placed considerable discretion in the hands of the court terms of the basis and amount of interest to be awarded. The Supreme Court has ruled that “[b]ecause . . . prejudgment interest should ordinarily be awarded absent some justification for withholding such an award, a decision to award prejudgment interest will only be set aside if it constitutes an abuse of discretion.”²²

A survey of cases reflects that the large majority of interest awards made in connection with patent damage awards are made either at a prime rate compounded annually, or at the Treasury Bill rate.²³ While there is some variance as a result of the discretion afforded judges, these two rate appear to predominate.

Over the past 20 years, the yield on the 10-year Treasury Bill has remained consistently above the prime interest rate.²⁴ This means that the Prime rate typically reflects a higher award of interest when made by a Court than the T-Bill rate.

B. Cost of Capital

As your parents frequently told you, money does not grow on trees. A company that wants to invest capital in innovation will have to pay for that money. There are two basic ways for a company to raise capital: debt and equity. Debt will be borrowed from a bank or private lender at rates that necessarily will be at or above the prime interest rate. This is so because the prime interest rate is defined as the rate at which a bank will lend money to its very best customers. So even the very best, least risky, companies will borrow

²⁰ See 4 Annotated Patent Digest § 30:122.

²¹ 34 U.S.C.A. §284.

²² *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 657, 103 S. Ct. 2058, 2063, 217 U.S.P.Q. 1185 (1983).

²³ See 4 Annotated Patent Digest § 30:125.10, Annotated Patent Digest (Matthews), March 2017 Update. Note that state statutory interest rates, which often are higher, appear to be routinely denied in favor of prime or T-Bill rates.

²⁴ See: http://www.fedprimerate.com/charts/prime-rate_vs_30-and-15-year-fixed-rate-mortgage_vs_10-year-treasury-yield.gif.

money at the prime rate, or somewhere above that rate. And of course there are limits on the amount of money that a bank will lend and lenders require certain capital ratios to ensure that their lent money is secure.

A company can also raise capital by issuing equity, typically by issuing bonds. This alternative exists when a company does not have access to debt or when the cost of debt increases to a point that it is no longer economical to borrow. Thus, the cost of equity will virtually always exceed the cost of debt.

The average cost of a company's debt and equity is referred to as its cost of capital, and the Weighted Average Cost of Capital ("WACC") is the rate that a company is expected to pay on average to all its security holders. As a percentage measurement, this WACC will fall between the company's cost of debt and cost of equity. For example, if a company had one unit of debt capital at a three percent interest rate, and two units of bond equity at a six percent coupon rate, its WACC would be five percent. A company's WACC is dictated by the external market and not by management and companies with a similar risk profile will often have a similar WACC.

The NYU Stern School of Business maintains a helpful site that tracks the cost of debt, cost of equity and weighted average cost of capital for various sectors of industry.²⁵ A scan of these data reflect a few general rules: (1) the cost of equity always exceeds the cost of debt; (2) the overall cost of capital lies somewhere in between the cost of debt and the cost of equity; and (3) higher risk industries have higher costs of capital than lower risk industries (compare, e.g. banks (4.00 percent), to internet software (7.32 percent), to biotechnology drugs (9.25 percent)).

As a final point, a company's target rate of return must necessarily be above its cost of capital. No company would raise money with the expectation that it could earn only the cost of acquiring that money. A company will raise capital only on the expectation that it can gain a return that exceeds its cost of acquiring that capital, plus a return that adequately accounts for the risk that its investments (or at least some of the investments within its portfolio) will not yield a return.

C. Summary of Impact of Interest Awards

In reduced form, it is clear that awards of interest based on a Prime or T-Bill rate will necessarily be lower than a company's target rate of return. For example, an innovator with a WACC of 8 percent may have a target rate of return of 20 percent. This target rate of return would be built-in as the discount rate in NPV calculation of the company's analysis of ROI. An interest rate award at four percent (roughly the average of the Prime and T-Bill rates over the past 10 years) will only slightly offset the effect of any delay.

VI. CONCLUSION

A delay attributable to non-availability of injunctions, therefore, will have an adverse effect on the incentive to invest in innovation. The larger the delta between the interest rate awarded and the target rate of return, and the longer the delay, the bigger the effect on innovation incentives. More importantly, by including values for these variables: length of delay, target rate of return, and interest rate expectation, the impact on innovation incentive can be measured directly. Implicitly or explicitly, this analysis is conducted at the initiation of any investment decision, and the impact of a policy that foments delay should be very carefully considered before implementing those policies. To date, in the antitrust community, that analysis has not been adequately conducted.

²⁵ See: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/wacc.htm (Cost of Capital by Sector), last updated January 2017.



THE SMALLEST SALABLE PATENT - PRACTICING UNIT EXPERIMENT, GENERAL PURPOSE TECHNOLOGIES AND THE COASE THEOREM

BY NICOLAS PETIT¹



I. INTRODUCTION

Economics 1.01 teaches that markets work efficiently when prices reflect externalities. The price system rewards producers' activities that increase the welfare of other economic agents – a positive externality. This attracts welfare-enhancing production to markets. Conversely, the price system penalizes producers' activities that decrease the welfare of other economic agents – a negative externality. This deters investment in socially harmful activities. Importantly, the Coase theorem adds that the price system will only properly reflect externalities if property rights are well delineated and there are no transaction costs.²

In the past years, some Standard-Setting Organizations (“SSOs”) active in wireless communications have – under the lenient eye of antitrust agencies³ – experimented with new technology pricing principles which upset this basic economic wisdom.⁴ One of those changes is the smallest salable patent-practicing unit (“SSPPU”) experiment.⁵ Under SSPPU pricing, the licensing rates paid (real prices) to owners of standard essential patents (“SEPs”) for the use of their technology shall reflect the “value that the functionality of the claimed invention or inventive feature . . . contributes to the value of the

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2 R. Coase, “The Problem of Social Cost,” *Journal of Law and Economics*, 1960, 3, 1-44.

3 U.S. DoJ, Business Review Letter, 15-1 Institute of Electrical and Electronics Engineers, Incorporated (“IEEE”), February 2, 2015.

4 The Institute of Electrical and Electronics Engineers Standards Association (“IEEE-SA”) has been a pioneer. The IEEE-SA is one of the world’s largest SSOs. It operates in the electro and information technologies sectors, and it is well-known for the successful introduction of several cutting-edge wireless communications standards, including IEEE 802.11 better known as Wi-Fi. See Section 6 of the IEEE-SA Standards Board Bylaws, Approved Clause 6 of the SASB Bylaws, p.2.

5 For ease of exposition, we call the SSPPU a rule in the day to day sense, though the IEEE-SA has explicitly indicated that it was not a mandatory condition for participation in standardization activities.

relevant functionality of the smallest saleable Compliant Implementation that practices the Essential Patent Claim.”⁶ In plain English, prices charged for technology should reflect the value added to the smallest component embodying the patented invention.

SSPPU wants to prevent upstream technology developers to claim all, or a share of, the value added to the end product sold by original equipment manufacturers on downstream markets. This practice, which is sometimes referred to as the Entire Market Value Rule (“EMVR”), has received wide media coverage in the smartphone industry, where royalties are conventionally calculated as a percentage of final handset prices so as to reflect the value added to end users by the patented component (say, 5 percent of the retail price of an iPhone).⁷ Some authors have claimed that this creates a problem of “royalty stacking,” given the thousands of SEPs included in a standard, and the thousands of standards implemented in a smartphone.⁸ An empirical study – whose findings have been criticized⁹ – found that the royalty stack represents a burden of \$120 on a hypothetical \$400 smartphone.¹⁰ At the end of the line, royalty stacking is said to decrease innovation to the detriment of society at large.

As with all intuitive ideas, SSPPU pricing has some appeal. But on second thoughts, its implications are so likely counterproductive that it should remain what it is, an experiment. Basic economic theory, and a fictional example, help demonstrate this.¹¹

II. A TALE OF THE AIRCRAFT INDUSTRY

Take firm A and B. A is a technology firm that develops wireless communications technology. B is a vertically integrated manufacturer of commercial aircrafts. A holds a portfolio of patents which have been declared essential to an ITU standard entitled Wireless Avionics Intra-Communications (“WAIC”).¹² WAIC sets specifications for wireless communications between two or more points on a single aircraft. WAIC is primarily about safety-related applications: release of oxygen masks, trigger of oxygen flow, emergency lighting, cabin pressure, etc.

Under WAIC, aircrafts manufacturers can literally cut costs. Few people know that a standard Airbus A-380 embarks approximately 5700 kilograms (“kgs”) of electrical wires. With wireless technology, approximately 30 percent of the entire aircraft electrical wire (i.e. 1710 kgs) can be stripped.¹³ This, in turn, represents massive economies in fuel consumption and lower carbon dioxide (“CO₂”) emissions. Given that fuel consumption is “probably the single most important item in airlines’ operating costs,” WAIC is likely to drive up the demand of airlines customers’ on the market for commercial aircrafts.¹⁴

6 This policy applies to SEPs encumbered by a FRAND commitment. Under a FRAND commitment, a SEP holder pledges to charge fair, reasonable and non-discriminatory fees.

7 K. Mallinson, “Busting Smartphone Patent Licensing Myths,” September 2015, available at: <http://cpip.gmu.edu/wp-content/uploads/2015/10/Mallinson-Busting-Smartphone-Patent-Licensing-Myths.pdf>.

8 M. Lemley and C. Shapiro, “Patent Holdup and Royalty Stacking,” (2007) 85 *Texas Law Review*, 1991.

9 Mallinson, on the basis of financially audited royalty income from leading licensors, concluded that the cumulative mobile-SEP royalty payments amount to no more than around 5 percent of mobile handset revenues, far less from the 30 percent (\$120 of \$400) estimation. K. Mallinson, WiseHarbor, on cumulative mobile-SEP royalties. For IP Finance, August 19, 2015, available at: <http://www.wiseharbor.com/pdfs/Mallinson%20on%20cumulative%20mobile%20SEP%20royalties%20for%20IP%20Finance%202015Aug19.pdf>.

10 A. Armstrong, J. Mueller and T. Syrett, “The Smartphone Royalty Stack: Surveying Royalty Demands for the Components Within Modern Smartphones” (May 29, 2014), available at: <http://ssrn.com/abstract=2443848>.

11 Our example is taken from the aircraft industry. It is not entirely fictional, but extrapolated from the IEEE-SA FAQ on its revised patent policy at Q44, where it is stated: “For example, assume a component is a Compliant Implementation of IEEE 802.11™ and practices the Essential Patent Claim. That component is then used in an entertainment system that is then installed into an airplane. In this example, the component is the smallest saleable Compliant Implementation of IEEE 802.11.”

12 See: <http://waic.avsi.aero/>.

13 Notably with the elimination of double or triple wiring redundancies. See: <https://www.itu.int/net/ITU-R/study-groups/docs/workshop-wp5abc-wrc15/WP5ABC-WRC15-P2-5.pdf>.

14 M. Givoni and P. Rietveld, “Airline’s choice of aircraft size – *Explanations and Implications*,” *Transportation Research Part A* 43 (2009) 500–510.

Let us attempt to calculate a crude empirical estimate of those costs savings. American Airlines considers that a reduction of the mass of each aircraft by 14.5 kgs yields a yearly fuel economy of \$1.2 million across its entire fleet.¹⁵ This represents a yearly saving of \$83,000 per kg eliminated on all aircrafts. Let us now assume that American Airlines decides to replace its entire fleet of 939 aircrafts with WAIC compliant ones. With those aircrafts, it would make a yearly fuel economy of \$141.9 million ($\$83,000 \times 1710$) on the entire fleet, and an average fuel economy per aircraft of \$151,000 ($\$141.9 \text{ million} / 939$).¹⁶ If we assume that an aircraft has a 20 year lifespan, this amounts to total benefits of \$3.02 million per WAIC compliant aircraft.

With this background, let us return to our fictional example. B decides to implement WAIC in next generation aircrafts. B liaises with A to negotiate a license on its SEPs. How should this license be priced under the SSPPU? The SSPPU seems to preclude to take account of the value added to the end product, i.e. the aircraft. Instead, it forces focus on the added value to the smallest salable patent-practicing implementation. In this case, the SSPPU is the Radio Frequency (“RF”) equipment, i.e. antennas, transmitters and receivers.¹⁷ A will thus secure licensing revenue that represents a fraction of the (internal) price of RF equipment. That is essentially plastic, silicon and semi-conductors.

III. EXTERNALITIES

From an economic standpoint, the defect of this approach is so obvious that it does not deserve long critique. A is only entitled to appropriate a fraction of the value created by its technology, and has no claim whatsoever over the value added to end users, i.e. the fuel efficiencies made by airlines. The concept of value added to end users can also be illustrated with a consumer goods example, by contrasting an iPhone versus an iPod. Both use similar components, but one implements patented connectivity technology, not the other.¹⁸ And the value added to end users changes dramatically.

To be sure, under the SSPPU regime, A remains, in theory, free to claim from B that the value added to the smallest implementation, i.e. the RF equipment, is \$3.02 million. As was noted by the U.S. DoJ in its 2015 Business Review Letter on an IEEE – SA initiative that recommends use of SSPPU in SEP licensing negotiations, SSPPU does not prevent raising the royalty rate (“r”) in order to reflect that the patented functionality drives demand for the end product.¹⁹ Is this, however, realistic? If we assume that the value of an RF equipment unit for an aircraft is \$1,000, then A would have to charge $r = 3020$ percent per RF unit. This would look like plain vanilla monopoly pricing, and B could certainly resist any such demand. Moreover, it may again be objected that SSPPU does not prevent using the end product as the royalty base. In this variant, A could charge \$3.02 million on the aircraft price. Given that an A380 sells (list price) for \$414.4 million, then the parties could settle for $r = 0.72$ percent. Facially, this rate would stay within the confines of a fair and reasonable price. However, this proposition is again unrealistic.²⁰ In the SSPPU world, B can resist demands to use the aircraft price as the appropriate royalty base, because SSPPU imposes focusing licensing talks on the value added to the component, i.e. the RF equipment. If A were ever to offer a 0.72 percent rate on the end product, B could perfectly challenge this proposed methodology as inapt to reflect the added value of the smallest compliant implementation. In turn, B could offer to discuss the price (and cost) of RF equipment as a more appropriate royalty base. From a practical standpoint, SSPPU thus tends to promote component licensing as the default rule in bilateral negotiations, and to marginalize the industry practice of end-product licensing.

15 <http://www.wired.com/2012/09/how-can-airlines-reduce-fuel-costs/>.

16 https://en.wikipedia.org/wiki/American_Airlines_fleet.

17 In reality, the SSPPU may be even lead to focus on more granular implementations, like for instance, chipsets which ensure frequency sharing within RF transmitters. Frequency sharing techniques enable to share spectrum with each other and potentially other users. See: https://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-M.2197-2010-PDF-E.pdf.

18 Or taking for instance a Samsung Galaxy tablet, one with Wi-Fi and the other with 3G, LTE or 4G connectivity.

19 See U.S. DoJ, Business Review Letter, 15-1 IEEE, February 2, 2015.

20 As Geradin and Layne-Farrar observe, “From a mathematical perspective, of course, the individual elements of a royalty payment, in isolation, are irrelevant, as one variable can adjust with the other. Whether we apply a 1% royalty rate to a \$100 product price or a 10% royalty rate to a \$10 value component, the per unit royalty payment will be \$1.” However, the authors observe that this mathematical neutrality does not hold in the real world, due to many practical considerations. D. Geradin and A. Layne-Farrar, “Patent Value Apportionment Rules for Complex, Multi-Patent Products,” 27 *Santa Clara High Tech. L.J.* 763 (2010).

At a more stylized level, because SSPPU ring fences licensing talks around the value of the smallest salable component, it can be deemed to take off the negotiation table the positive production externalities enjoyed by other economic agents. This interference with the price system is unfortunate. Prices that do not reflect positive production externalities send counter-productive signals to investors, and may result in underinvestment.

This externality problem is not trivial, and certainly acute in relation to “general purpose” technologies (“GPT”) – better known to the public as “enabling technologies.”²¹ Bresnahan and Trajtenberg define GPTs as technologies that (i) are used as inputs by many downstream sectors; (ii) present inherent potential for technical improvements; and (iii) bring about innovational complementarities.²² Textbook examples include the steam engine, semiconductors, computers, the Internet and wireless technologies.

GPTs are quantum leaps that yield countless positive production externalities. Bresnahan and Trajtenberg talk of them as the “engines of growth.”²³ In particular, GPTs yield vertical externalities – between the technology and the applications sector (here, in aircraft manufacturing) – and horizontal ones – across sectors (here, across aircraft manufacturers and the aerospace industry, for instance). Bresnahan and Trajtenberg further hint that market institutions (possibly like SSPPU) may, if wrongly designed, prevent the appropriation of those externalities, and hinder the development of GPTs.²⁴

IV. TRANSACTION COSTS

In the world of Coase, parties bargain over a price that reflects externalities, including positive production externalities. To take a well-known example in the economics literature, if roaming bee hives pollinate neighboring apple crops, then beekeepers can seek compensation from apple farmers through market transactions.²⁵ However, a standard condition for the Coase theorem to apply is that the “market transactions are costless.”²⁶ Coase later explained that he did not believe that markets with zero transaction costs existed. He nonetheless insisted that the price system worked efficiently when transaction costs are limited.

Interestingly, SSPPU inflates by a non-trivial margin the transaction costs between SEP owners and implementers. The adverse transaction costs effect of SSPPU can be observed at several levels. First, the value of the smallest salable component practicing the patent will often be information privy to the firm that practices the patent. In our example, B is a vertically integrated aircraft manufacturer that internally produces avionics, including RF components. The price of RF components is a transfer price unknown to A. And even if B were to procure RF components on a market – for instance from subcontractor C – A is not party to the B-C exchange. The cost incurred by A to figure out the value of the smallest salable compliant implementation under SSPPU pricing is therefore likely to be much higher than reliance on other observable metrics, including end user profits or prices.

This problem explains why, in many patent intensive sectors, such as medical devices and food ingredients, the industry rule is that licensing contracts apportion a share of the end product profits to the patent owner.²⁷ And more generally, this also explains the pervasiveness of the 25 percent rule of thumb in intellectual property transactions.²⁸

21 T. Bresnahan and M. Trajtenberg, “General Purpose Technologies: Engines of Growth,” *Journal of Econometrics*, 1995, vol. 65, issue 1, pages 83-108.

22 *Id.*

23 Across the world, large public policy programs have been adopted to promote research in key enabling technologies. See Communication from the Commission, “A European strategy for Key Enabling Technologies – A bridge to growth and jobs,” Brussels, 26.6.2012 COM(2012) 341 final.

24 E. Helpman, *General Purpose Technologies and Economic Growth*, Cambridge, MA: The MIT Press, 1998.

25 Cheung showed this empirically, by observing in the Yellow Pages that a market for pollination services existed in rural Washington. S. Cheung, “The Fable of the Bees: An Economic Investigation,” 16 *J. Law & Econ.* 11 (1973). See also, M. Muth, R. Rucker, W. Thurman and C.T. Chuang, “The Fable of the Bees Revisited: Causes and Consequences of the U.S. Honey Program,” *The Journal of Law & Economics*, Vol. 46, No. 2 (October 2003), pp. 479-516.

26 R. Coase, *supra*.

27 Strictly speaking, SSPPU does not prevent spelling out licensing fees in the form of royalties on end product price. However, it forbids valuing the technology as a function of the end product revenue, profits or price.

28 Which sets that royalties represent one fourth of the profits made by the product that embodies the patented technology. R. Goldscheider, J. Jarosz and

Second, SSPPU itemizes licensing negotiations. Under SSPPU pricing, the patent owner and the prospective licensee must agree upon the value brought by each patented functionality. This means that each SEP – or, to be more accurate, each “Essential Patent Claim” – must receive a price. As if the beekeeper and the farmer had to set a fee for the pollination externality discharged by each individual bee. This again is likely to increase transaction costs in sectors where technology developers hold more than one or a few SEPs (and possibly other IP rights, including ordinary patents, trademarks, copyrights, trade secrets, etc.), and where “portfolio licensing” has become conventional practice for pragmatic reasons, i.e. essentially to avoid costly contract renegotiation when parties’ patent positions change over time (which is frequent, in consumer electronics and semiconductors).²⁹

Third, SSPPU pricing will generate endless discussions over valuation benchmarks. Let us recall the wording of the SSPPU rule: “value that the functionality of the claimed invention ... contributes to the value of the relevant functionality of the smallest saleable Compliant Implementation that practices the Essential Patent Claim.” In our example, the “relevant functionality of the smallest saleable compliant implementation” is the functionality of WAIC compliant RF equipment, and it can be broadly defined as inflight security communications. In turn, the “functionality of the claimed invention” of A is wireless communications. Thus, the inquiry shall revolve around assessing the *added value* of wireless technology to inflight security communications. There is not just a single way to deal with this. One approach is to construe the added value as the *savings* achieved by B, when it transitions from electrical wire to RF equipment for inflight security communications. Those savings essentially consist of costs economies made by the avoidance of electrical wiring, maintenance and replacement. But does this include the savings made by redesigning the factories to take advantage of the novel technology?³⁰ And why not instead, gauge the incremental *revenue* achieved by B, before and after the modification of its production mix? Obviously, all approaches are likely to return distinct SSPPU valuations, and endless methodological disputes among the parties’ economic experts.

In a 2004 paper, Posner underlined that high transaction costs are inherent in the licensing of intellectual property.³¹ This is all the more so in GPTs, where uncertainty, asymmetric information and time gaps are of the essence.³² With this, the SSPPU principle just adds another brick in the wall of transactional costs faced by parties to licensing negotiations.

V. CONCLUSION

On close analysis, SSPPU pricing is ill-thought. It interferes with the efficient operation of the price system. The proposition that licensing negotiations shall ignore a whole host of positive externalities is likely to reduce investment in socially beneficial activities, including in GPTs which are key drivers of economic growth. Moreover, SSPPU pricing is a nest of transaction costs. The SSPPU rule may thus limit the ability of technology developers and implementers to reach socially efficient bargains.

The bottom-line is that SSOs (and administrative agencies) across the world should not advocate – let alone mandate – SSPPU in SEPs-intensive sectors. This is likely to induce technology developers unwilling to license under SSPPU terms to desert SSOs or, even worse, to reduce their investments in industries where standardization is pervasive. In turn, if patent owners stop contributing their best technology into standardization, then end consumers will not obtain high quality and affordable products. Markets will morph into ecosystems of technological silos, where consumers are being locked-in without a fair price.

C. Mulhern, “Use Of The 25 Per Cent Rule In Valuing IP,” *Les Nouvelles*, December 2002, p.123; R. Razgaitis, “Pricing the Intellectual Property of Early-Stage Technologies: A Primer of Basic Valuation Tools and Considerations,” in A. Krattiger et al, *Intellectual property management in health and agricultural innovation: a handbook of best practices*, Volumes 1 and 2 2007 pp. 813-860. See also, KPMG International, *Profitability and royalty rates across industries: Some preliminary evidence*, 2012.

29 P. Grindley & D. Teece, “Managing Intellectual Capital: Licensing and Cross-Licensing in Semiconductors and Electronics,” 39 *California Management Review*, Winter 1997, at 8-10.

30 T. Bresnahan and M. Trajtenberg, *supra*.

31 R. Posner, “Transaction Costs and Antitrust Concerns in the Licensing of Intellectual Property,” (2004) 4 *John Marshall Review of Intellectual Property Law*, 325.

32 T. Bresnahan and M. Trajtenberg, *supra*.

Moreover, from a regulatory standpoint, the risk of under-licensing (or deferred licensing) due to increased transaction costs under the SSPPU rule may inescapably prompt compulsory licensing initiatives by administrative agencies.³³ But as Posner rightly observes in relation to copyright, compulsory licensing certainly removes a transaction costs problem but does not imply zero valuation: “The fee that the licensee under a compulsory license must pay is not meant to defray the licensing costs, in whole or in part, but to compensate the copyright owner for the value of his property (more precisely, the value represented by the copyright). The fee thus is the equivalent of the contract price and is distinct from the transaction costs—the costs of making the contract which are still in this example zero.”³⁴ Administrative agencies – like the U.S. DoJ – that seem to support the SSPPU experiment should thus think twice about it, unless they are ready to turn into price regulators and micro manage SEPs licensing fees.

33 A drastic remedy which, to date, has (rightly) remained a “paper tiger.” See Van Overwalle and Van Zimmeren, “A Paper Tiger? Compulsory Licenses Regimes for Public Health in Europe” (December 1, 2010. *International Review of Intellectual Property and Competition Law (IIC)*, January 2011, available at: <http://ssrn.com/abstract=1717974>, p.37.

34 R. Posner, *supra*.



IN SEARCH OF A PROBLEM: THE INTERFACE OF CAR BODY PART DESIGN PROTECTION WITH ANTITRUST

BY NUNO PIRES DE CARVALHO¹



I. THE PROBLEM IN A NUTSHELL

The interface of intellectual property with antitrust has many facets, and one that has surfaced in recent years is the acquisition of market power by the owners of designs (under patents, in the United States, or under certificates, in other countries) as regards vehicle (cars, trucks, farm tractors, etc.) body parts (hereinafter, this paper will refer to cars only). Such power results from the lock-in of car buyers who need to have their cars repaired after an accident, to whom the costs of changing the model is higher than paying the price for spare parts as high as their makers may decide.

The lock-in is the consequence of two factors: on the one hand, in the event a consumer needs to have one body part replaced, he/she will tend to prefer a part that is in conformity with the original design, so that his/her car keeps its original appearance. This is referred as *must match* designs, as opposed to *must fit* designs. The latter are those that may not be changed, otherwise the complex product, to which they belong, will not function properly. The former may have their shape changed, but at the price of changing the shape of the whole product. Some consumers do not mind this, and actually may engage voluntarily in *tuning* their cars.

On the other hand, patent (or certificate) design owners have the exclusive right of making and selling those designs. So, in the so-called aftermarket — the market of spare parts — intellectual property accords designers and their assignees (mostly, car makers) dominant market power, to the extent that exclusive rights in designs constitute an insurmountable barrier to entry of competitors in that market. Consequently, industrial design right holders' dominant position in the spare parts market gives rise to monopolistic prices, and consumers, locked in to their cars, have no possible way to defend them-

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selves by seeking alternative, interchangeable products.

Enforcing design rights against independent makers and/or importers of car body parts on the aftermarket hurts competition and consumers, and naturally gives rise to an antitrust concern. This is how, in a nutshell, the problem is enunciated.

II. THE SIX “SOLUTIONS” AVAILABLE

Based on this sort of argument, the pressure caused by consumer organizations — seeking cheaper spare parts — and independent makers/importers of car body parts — eager to take a piece of the aftermarket pie — has led parliaments and courts in a number of countries to act, aiming to overcome the described barrier problem. Six different solutions have been proposed.

A. Exclude Car Body Part Designs from Protection

The first solution is to exclude car body part designs from protection altogether, on the grounds of an alleged inherent functionality. In those countries where designs must be ornamental in order to be registrable², the fact that the shape of car body parts has to be in conformity with the overall shape of the entire body would take the arbitrariness of creation from it, thus making each part to be functionally dependent from the whole body. This fact would deprive car body designers of arbitrariness in shaping the different components, hence their creativity. Creativity being one fundamental condition for designs to be eligible for patentability/registrability, its necessary absence would make them ineligible for patent/registration.

This criterion was followed, e.g. a few years ago by a Brazilian federal court. However, on appeal, that decision was reversed, on the grounds that there is indeed creativity in designing body parts, otherwise all cars would look the same.³

B. Body Part Designs Registrable and Enforceable only on the Primary Market

The second solution is that car body part designs are registrable and enforceable, but only against other car makers — i.e. only on the primary market (or foremarket). In other words, rights in those designs are not enforceable against independent makers and/or importers of car body parts, provided those parts are purchased for repairing and restoring cars to their original shape.

This solution was adopted by the European Union (Council Regulation (EC) nr. 6/2002, of December 12, 2001, which set a community design system). It is also envisaged by H.R. 1057 and S. 560, *Promoting Automotive Repair, Trade and Sales Act*. If enacted, these bills would set two exceptions to design rights in the United States: first, design rights would not be enforceable against the making, selling and importing of car body parts by independent makers/importers provided they are purchased for the purpose of repairing cars so as to restore them to their original shape; and second, after a 30-month period, patented designs would be subject to international exhaustion, i.e. once sold abroad, car body parts could be imported into the U.S. without the need to obtain the patent owner authorization.

This solution was also followed by a preliminary decision of the Brazilian competition authority, in a case filed by an association of independent car body part makers and importers against Ford, Fiat and Volkswagen.⁴

C. Unrestricted on Primary and Secondary Markets, but Abuses are Subject to Sanctions

Third, designs of car body parts are patentable and their enforceability unrestricted on both primary and secondary markets, but abuses are subject to sanctions. Examples of abuses are “the arbitrary refusal to supply spare parts to independent repairers, the

² Such as the U.S. — see 35 U.S.C. 171.

³ *Orgus Ind. e Com. v. Ford Motor Co. et alii*, judgment by Federal Judge Guilherme Bollorini Pereira, Federal Court, 2nd Region, May 23, 2012, *reversed*, Regional Federal Court, delivered by Appellate Judge Marcelo Pereira da Silva, 2nd Chamber, August 1, 2013.

⁴ See *ANFAPE v. Volkswagen, Fiat and Ford*, Preliminary Investigation nr. 08012.002673/2007-51.

fixing of prices for spare parts at an unfair level or a decision no longer to produce spare parts for a particular model even though many cars of that model are still in circulation,” as the European Court of Justice (“ECJ”) held in *Volvo v. Erik Veng (UK)*.⁵

This is the most traditional position, which prevails in the majority of countries that host an automotive industry that targets domestic consumers. By ensuring protection to creative designs, the law encourages the industry to focus on the taste and cultural values of national consumers. In this manner, the differentiating value of designs is acknowledged and protected, with the consequent gains in promoting free competition among car makers. The exclusion (during the term of design protection) of independent makers/importers is the price that society pays to promote and ensure differentiation. This is the rationale of all the fields of intellectual property — for intellectual property to be differentiating it has to be exclusive.

In the case of abuses, sanctions will apply, the most common (albeit not frequent) being compulsory licenses. Compulsory licenses may be granted by courts, competition authorities or patent agencies, through formal *inter partes* proceedings, or by courts, when they refuse to issue injunctions against design infringers. In any event, compulsory licenses always trigger the payment of adequate compensation (except in the case of antitrust violations, when the remuneration may be reduced in proportion to the seriousness of the violation)⁶ and must be granted on a case-by-case basis.

Examples of national statutes that provide for compulsory licenses against design right abuses are those of South Africa, Chile, Malaysia and New Zealand. In the course of the negotiations of the TRIPS Agreement, during the Uruguay Round, the U.S. and Hong Kong, China, also proposed to introduce compulsory licenses of industrial design rights in the event of abuses (Hong Kong was even specific about the automotive industry).

Recently, this was the path followed by the Competition Commission of India (“CCI”) after an investigation on the practices of the car industry in India as regards the sales and the pricing of car body parts.⁷ The CCI concluded that some of those practices were abusive, and that car makers should not only refrain from opposing the making and selling of body parts by independent makers/importers but also provide them with the necessary technical information, except when the corresponding manuals and designs were protected by intellectual property rights (namely, trade secrets and design certificates). In such cases, independent makers would need to remunerate the IP holders.

D. Exclusive Rights are Subject to Exhaustion

Fourth, the exclusive rights that stem from the registration of industrial designs of car body parts are subject either to exhaustion or to an implicit license as a result of the first sale of the vehicle of which they are components. Therefore, the purchaser of the car acquires the right to buy spare parts from independent suppliers provided his/her intent is to repair the car and restore it to its original shape.

This doctrine was first adopted by a deeply divided House of Lords, in *British Leyland Motor Co. v. Armstrong Patents Co. Ltd.*⁸

E. Designs are Protected by a Right of Exclusivity during an Initial Predetermined Term

Fifth, designs are protected by a right of exclusivity during one initial predetermined term; once that term expires, during a subsequent period, the design owner loses the right to prohibit their making and selling by third parties, but he/she is entitled to remuneration by those third parties. This system is tantamount to a mechanism of automatic compulsory licenses. The European Commission proposed this system when it was discussing a Directive on the harmonization of the design laws of its Member States, but has since dropped it. One European country, however, has transposed such a system into its national law. Greece, whose law provides for a

⁵ Case 238/87, judgment of October 5, 1988. See also *CICRA v. Renault*, Case 53/87, judgment on the same day.

⁶ See TRIPS Agreement, Article 31(k).

⁷ See *Shri Shamsher Kataria Informant v. Honda Siel Cars India Ltd. et alii*, Case nr. 03/2011.

⁸ Judgment of February 27, 1986.

five-year period of exclusivity to registered designs, followed by four renewable, consecutive five-year periods (totaling 25 years of protection) during which third parties can use the designs provided they pay remuneration to the rights owner.

F. Design Rights Cannot Impede the Repair of Cars in Transit

Sixth, exclusive design rights cannot be enforced in a way that impedes the repair of cars in transit or that accidentally entered national territory. This exception is found in a number of statutes on industrial designs such as those of South Africa, Andean Community (Bolivia, Colombia, Ecuador and Peru), Republic of Korea and Mexico. All these countries have extended to industrial designs of car body parts, by analogy, provisions that are found in the Paris Convention for the Protection of Industrial Property (on patents only) and the Convention on International Civil Aviation.

This sixth solution is not incompatible with the solutions above (except the first one, which denies protection to car body part designs altogether) and therefore can be (and has been actually) applied in conjunction with any of them.

III. SOLUTIONS IN SEARCH OF A PROBLEM?

Actually, out of those six solutions, only two address real problems. One is the third solution, which reduces design rights in face of abuses only. This is not only a matter of law but of good sense as well: the uncontrolled enforcement of IP rights reduces competition and ultimately eliminates differentiation, thus destroying the very purposes of IP protection. The other is the sixth solution, which acknowledges a possible barrier imposed on international trade caused by the enforcement of legitimate rights. Whereas infringement has no impact on the national territory of a country or, if it has, such impact is *de minimus*, and, in addition, enforcement harms the legitimate interests of traders and consumers (just think of an aircraft that gets stalled at an airport for the lack of spare parts), there is no justification for keeping design rights enforceable.

But all the other four solutions are, in reality, seeking a problem that does not exist, unless we accept that the purchase of painless gains by new entrants to markets previously created by the efforts and creativity of others is legitimate. However, that is not legitimate, and there are at least four powerful reasons that show why.

First, when we refer to the aftermarket of spare parts, we actually refer to what one may call a *Horton market* — a market the size of a speck of dust. Indeed, most car body parts are not interchangeable, with the exception of a few ones, like the grids and headlights of a few models, which may be common to a number of models of the same car. Other than those exceptions, car body parts are not interchangeable even within the same model — the front left fender of car X, year Y, cannot be replaced by a part other than another left fender of the same model and year.

This means that the impact of overpricing permitted by design exclusivity is minimal as compared to the price of a new car.

Second, admitting the dominance over the tiny market of specific, non-interchangeable parts, that results from design exclusivity, such dominance is originated by the own efforts of the carmaker in question. As the law and good sense goes, no entrepreneur is obliged to make competitors' life easy.

Third, a number of car body parts become as much distinctive of cars and their makers as figurative trademarks. Actually, there are certain car part designs that are so distinctive that their makers could stop placing logos on the bonnets or the front grids, and consumers would still be able to recognize them. Here, again, the law and common sense teach that competitors should not be allowed to make and sell those parts, for they constitute the very DNA of the concerned models and their makers. Such parts have a significant distinctive strength and become signs of product identification. They are, therefore, more than industrial designs — they become genuine trademarks and are protectable as such as well as by the norms that repress unfair competition against acts of parasitism and confusion.

Fourth, the exception to rights in car body part designs, preventing their enforceability on the secondary market, is discriminatory and illegal, unless it also benefits the other car makers (which might be interested in entering the secondary market, thus competing with each other on supplying spare parts — an obviously absurd proposition).

Besides, denying enforceability to design rights without adequate compensation to creators is contrary to international law. Under Article 26.2 of the TRIPS Agreement (which is Annex 1C to the 1994 Agreement Establishing the World Trade Organization), WTO Members may set exceptions to design rights, but only provided those exceptions are limited, do not conflict unreasonably with the normal exploitation of designs and do not unreasonably prejudice the legitimate interests of design right holders. Of course, demonstrating the absence of limits in the rules that permit independent makers/importers to make and sell body parts for repairing does not take effort — there are simply no limits. Moreover, those exceptions come with a price, which is the prejudice of design right owners, who should be entitled to extract revenue from sales not only on the primary, but also on the secondary market.

Against these logical arguments, the lobbying for the independent makers/importers of car body parts keep trying to persuade authorities of their good cause with arguments that, although untrue, have gained popularity. Car makers, as the argument goes, are greedy monopolists in search of unjust and disproportionate profits in a heartless way. Consumers are the victims, poor citizens that inadvertently, when they buy a car, fall as prey into car makers' hands.

Nothing could be more wrong, and not only for the legal reasons given above. Actually, in most countries, the automotive industry may not engage in the sort of abusive acts mentioned by the ECJ, such as abusive pricing or failing to keep stock of parts for discontinued models, in the face of rules imposing certain behavior to car makers and importers (in some countries designated as “automotive regimes”).

The recognition of exclusive rights in car body parts that are designed for the national market ensures the creation and maintenance of jobs; the alternative (lack of protection) is an open door for cheap imports from countries where casting molds are manufactured in large scale and prices are unbeatable because of the lack of need for recouping the investment in design.

To permit the after-sale recouping of costs sunken in the research and design of body parts is socially fair and economically efficient. Not only are designers encouraged to continue developing new, prettier and more efficient designs, but also eventual overpricing imposes the burden on those who buy the parts, this meaning those who are involved in car accidents. In other words, allocating rights to car body designers does not only make social justice to creators, but also serves as a tool of social education, persuading buyers to cover their cars with insurance as well as to pay more attention to traffic safety.

Finally, the whole debate has been summarized by Kord Hoffmann, in *Canon K.K. v. Green Cartridge Co.*⁹ in enlightening language:

Of course one has a right to repair one's car, as one has the right to cultivate one's garden and indulge in all kinds of harmless activities. But such a right is not usually treated as entitling one to invade the property rights of others; for example, by taking a neighbour's dahlias on the ground that this is the most economical way of going about it. It is hard to see why the appropriation of intellectual property rights should be any different. [...] It is hard to escape the conclusion that although Lord Bridge of Harwich [in *British Leyland*, cited above] felt driven to accept that Parliament had created intellectual property rights which covered the manufacture of three-dimensional parts by reverse engineering, he felt free to remedy what he saw as a legislative error by treating such rights as an inferior species of property which could be subordinated to the right to repair one's motor car. Such prepotency over statute has not yet been accorded in this country even to human rights such as free speech.

⁹ Privy Council [1977] AC 728, judgment of April 30, 1997.

