Why Patent Monopsonies Increase Consumer Welfare

Bernard Chao & Tod Duncan*

Abstract

Technical standards are an essential part of how the modern world operates. Standards enable different devices to communicate with each other, use the same power supply, and even exchange data. These standards are created by groups of companies coming together through standard settings organizations (SSOs). Besides defining standards, SSOs set policies that affect how much member companies charge for their standard essential patents (SEPs). Unsurprisingly, many companies desire lower patent prices. But as SSOs adopt policies that lower prices, their conduct begins to look like collusion subject to antitrust scrutiny. Indeed, classic economic theory suggests that when a monopsonist (or multiple oligopsonists) lowers prices, it also *lowers output* and *creates deadweight loss*. Presumably, that is why the antitrust

* Bernard Chao is a Professor of the University of Denver Law School. Tod Duncan Ph.D. is an Associate Clinical Professor in the Department of Integrative Biology at the University of Colorado Denver, JD expected Dec. 2021. The authors would like to thank Michael Carrier, Jorge Contreras, Tom Cotter, Greg Day, and participants of the University of Denver Summer Workshop Series for their helpful feedback.

authorities in the Trump administration have adopted policies that caution SSOs against these practices.

This paper argues that these policies result from a misunderstanding of economic theory. The monopsony problem is typically discussed in the context of private goods, goods which are both excludable and rivalrous. While patent licenses are excludable (i.e., a licensor can refuse to grant the license), they are not rivalrous because the grant of one license does not prevent the simultaneous grant of licenses to other companies. This combination of traits means that patent licenses are not private goods, but a type of "artificially scarce goods." As this paper explains, the economics of artificially scarce goods are fundamentally different than the economics of private goods. When a monopsonist buying artificially scare goods lowers prices, it *increases output* and *reduces deadweight loss*. Thus, the core rationale for prosecuting monopsonies under antitrust law, increasing allocative efficiency, does not apply to patent monopsonies like SSOs.

The Trump administration also tried to justify the use of antitrust law to strengthen patents rights and increase innovation incentives. While antitrust law certainly has a role in guarding against conduct that suppresses innovation, antitrust law was never meant to create innovation incentives themselves. That is the role of patents. More particularly, patent law calibrates incentives to properly encourage innovation without unduly discouraging subsequent follow-on innovation. Unless there are reasons to believe that patent monopsonies are harming innovation, antitrust law should not interfere with the balance patent law seeks to strike. When SSOs implement a policy that lower rates to reflect the contribution an SEP makes to the standard, the policy is simply reinforcing a patent law principle called "apportionment." Thus, antitrust law should not oppose such a policy.

Introduction

Technical standards are an essential part of how the modern world operates. Standards enable different devices to communicate with each other, use the same power supply, and even exchange data. These standards are created by groups of companies coming together through standard settings organizations (SSOs). Besides defining standards, SSOs set policies that affect how much member companies charge for their standard essential patents (SEPs).[1] Unsurprisingly, many companies want to pay less for these patents. But as SSOs adopt policies that lower patent prices, their conduct begins to look like collusion subject to antitrust scrutiny. Indeed, classic economic theory suggests that when a monopsonist (or multiple oligopsonists) lowers prices, it also *lowers output* and *creates deadweight loss.*[2] In economic terms,

---

[1] Standard essential patents (SEPs) cover technology that is necessary to implement a standard. *See infra* notes 5–7 and accompanying text.

[2] Monopsonies are the demand side counterpart to monopolies. While a monopoly refers to a market with only one supplier, a monopsony refers to a market with only one buyer. Relatedly, oligopsonies refer to a group of buyers that collectively have market power. For the purposes of this paper, the

lowering prices harms static consumer welfare. Presumably, that is why Makan Delrahim, the Assistant Attorney General for the Antitrust Division of the Department of Justice (DOJ) in the Trump administration, adopted policies that caution SSOs against these practices.

This paper argues that these policies result from a misunderstanding of economic theory. The monopsony problem is typically discussed in the context of private goods, goods which are both excludable and rivalrous. While patent licenses are excludable (i.e., a licensor can refuse to grant the license), they are not rivalrous because the grant of one license does not prevent the simultaneous grant of licenses to other companies. This combination of traits means that patent licenses are not private goods, but a type of "artificially scarce goods," also sometimes known as a "club good." Importantly, the economics of artificially scarce goods are fundamentally different than the economics of private goods. When a monopsonist buying artificially scarce goods lowers prices, it *increases output* and *reduces deadweight loss*. In economic terms, lowering price for artificially scarce goods enhances static consumer welfare. Thus, the core rationale for prosecuting monopsonies under antitrust law, increasing allocative efficiency, does not apply to patent monopsonies like SSOs.

Trump's Antitrust Division also tried to justify the use of antitrust law to strengthen patents rights and increase innovation incentives. While antitrust law certainly has a role in guarding against conduct that suppresses innovation, antitrust law was never meant to create innovation incentives themselves. That is the role of patents. More particularly, patent law calibrates incentives to properly encourage innovation without unduly discouraging subsequent follow-on innovation. Unless there are reasons to believe that patent monopsonies are harming innovation, antitrust law should not interfere with the balance patent law seeks to strike. When SSOs implement a policy lowering rates to reflect the contribution an SEP makes to the standard, the policy is simply reinforcing a patent law principle called "apportionment." Thus, antitrust law should not oppose such a policy.

Antitrust authorities in the Biden administration have already signaled that they intend to change Trump's policies as it relates to patents.[3] However, there has been little indication of what those new policies will be. This paper seeks to provide theoretical support for changing the Antitrust Division's policy as it relates to SSOs. Specifically, we urge reversal of the preceding administration's hostility toward patent monopsonies and argue that SSOs should be given more latitude in pushing for rates that more closely approximate the value that a patent contributes to a given

---

theory of monopsonies and oligopsonies is the same, and we simply use the term monopsony to refer to both types of entities.

[3] *See* Bryan Koenig, *Changes Coming to DOJ Antitrust IP Approach*, LAW 360, (Jun. 3, 2021), https://www.law360.com/articles/1390986/changes-coming-to-doj-antitrust-ip-approach ((("The U.S. Department of Justice's acting antitrust chief . . . teased changes ahead in a departure from his Trump administration predescessor's approach to intellectual property issues").

standard.

This paper proceeds in four parts. In Part I, we describe how most SSOs require their members to commit to licensing their SEPs on fair, reasonable, and non-discriminatory (FRAND) terms. Part I then goes on to explain how one standards body, the Institute of Electrical and Electronics Engineers (IEEE) tried to clarify what FRAND meant by: 1) providing guidance on calculating patent licensing rates, and 2) limiting the availability of injunctive relief (IEEE-SA Revised Patent Policy). To assess whether their policy raised any antitrust concerns, the IEEE asked the Antitrust Division of the Obama administration to provide a business review letter. While that letter viewed the IEEE-SA Revised Patent Policy favorably, the Trump administration later reversed course and changed that guidance. Moreover, in several speeches, Delrahim also suggested that SSOs that worked to lower license rates should be considered harmful monopsonies subject to prosecution under the antitrust laws.

Part II challenges the Delrahim view by exploring the economic theory of monopsony in the context of SSOs. Part II explains how monopsonies in private goods harm consumer welfare, while monopsonies in artificially scarce goods (like patents) increase consumer welfare. In other words, SSOs that are able to lower patent prices turn out to increase output and reduce deadweight loss. Thus, the core rationale for prosecuting monopsonies under antitrust law—the harms they cause to allocative efficiency—is missing when it comes to patent monopsonies.

Part III then looks at an alternative justification the Trump Administration offered for using antitrust laws against SSOs: strengthening patents and increasing innovation incentives. While antitrust law has a role in guarding against activity that harms competition, patent law should calibrate the size of innovation incentives. Part III then argues that the IEEE-SA Revised Patent Policy simply reinforces two important patent principles: 1) promoting licensing rates that reflect the contribution an essential patent makes to a technical standard and 2) reducing problems from patent holdup. Accordingly, the paper argues that the Biden Administration should once again give SSOs more latitude in pushing for rates that more closely approximate the value that a patent contributes to a given standard. Part IV concludes.

I. Trump's Antitrust Department: SSOs as Harmful Monopsonies

Although most people are unfamiliar with technical standards, standards are essential to the proper functioning of our modern technical world. They allow devices from different manufacturers to use the same charger (using various USB standards). They allow laptops, smartphones, and even kitchen appliances to communicate with the same wireless router (using the IEEE 802.11 Wi-Fi standard). Standards even allow people to use web browsers to access different websites (using the Hypertext Transfer Protocol (HTTP)). Standards are generally considered to be beneficial to both companies and consumers alike. That is because the successful adoption of a

standard has pro-competitive "network effects."[4] For example, companies can confidently invest in new products that work with a host of other products, even those made by different companies. Consumers do not have to buy redundant devices that perform the same functions. (e.g., imagine having to buy different Wi-Fi routers for Samsung, Apple, and Nest products).

Standards setting organizations (SSOs) are the primary entities responsible for creating technical standards. Companies join SSOs in the hope of influencing the standard in strategically beneficial ways. But SSOs do not just define the technical details of standards, they establish policies important to developing and implementing those standards. One recurring issue that arises is how to handle patents. Standards almost always include technology patented by member companies. When that occurs, using technology covered by these patents becomes essential to implementing the standard. For any given standard, there can be thousands of standard essential patents (SEPs).[5] This large number of patents often creates what has been labeled a "patent thicket." Patent thickets have the potential to make a standard unaffordable for the standard's implementers and thus cause a standard to fail or otherwise become less popular.[6] Not surprisingly, many implementers are interested in minimizing the licensing fees they pay for SEPs. While one possibility would be for each company to try to individually negotiate low licensing fees with an SEP holder, companies have realized that they have more leverage when they work collectively through SSOs.[7]

As a result, SSOs have adopted policies that would make royalty rates both predictable and affordable. Many SSOs require their members to commit to licensing their patents on fair, reasonable, and non-discriminatory (FRAND) terms.[8] But whether a particular royalty rate is FRAND compliant can be subject to serious dispute.[9] In 2015, the Institute of Electrical and Electronics Engineers (IEEE), one of

---

4 MICHAEL A. CARRIER, INNOVATION FOR THE 21ST CENTURY 323–24 (2009); CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 229–33 (1999) (discussing how networks effect create substantial consumer benefit).

5 *See* Jorge L. Contreras, *Technical Standards, Standards-Setting Organizations, and Intellectual Property: A Survey of the Literature (With an Emphasis on Empirical Approaches)*, in 2 RESEARCH HANDBOOK ON ECONOMICS OF INTELLECTUAL PROPERTY LAW 185, 191–93 (2019) (identifying "more than 200,000 patent disclosures from 19 major SSOs").

6 *See* Jorge L. Contreras, *Fixing Frand: A Pseudo-Pool Approach to Standards-Based Patent Licensing*, 79 ANTITRUST L.J. 47, 50 (2013) (noting that "the aggregation of royalty demands by multiple patent holders could lead to cost-prohibitive burdens on implementing standards-compliant products."); Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1209 (Fed. Cir. 2014) ("If companies are forced to pay royalties to all SEP holders, the royalties will 'stack' on top of each other and may become excessive in the aggregate.").

7 W. Michael Schuster & Gregory Day, *Colluding Against a Patent*, 2021 WISC. L. REV. 539, 540–41 (2021).

8 PATENT REMEDIES AND COMPLEX PRODUCTS: TOWARD A GLOBAL CONSENSUS at 160 (C. Bradford Biddle, Jorge L. Contreras, Brian J. Love & Norman V. Siebrasse eds., 2019).

9 Andrea Fosfuri, *The Licensing Dilemma: Understanding the Determinants of the Rate of Technology Licensing*, 27 STRATEGIC MANAGEMENT J. 1141, 1142 (2006); *see also* Garry A. Gabison, *A Two-Dimensional Approach to Non-Discriminatory Terms in FRAND Licensing Agreements*, 24 B.U. J. SCI. & TECH. L. 100, 100 (2018) ("Non-discriminatory has been interpreted

the world's largest standards bodies, revised its patent policy to provide more detailed guidance on what a FRAND commitment entailed (hereinafter "IEEE-SA Revised Patent Policy").[10] Specifically, the IEEE-SA Revised Patent Policy suggests that reasonable rates should be determined by looking at three factors: (1) the contribution the essential claim makes to the smallest saleable compliant implementation, (2) the value contributed by all essential claims together, and (3) existing licenses covering use of the essential patent claim, where such licenses were NOT obtained under the threat of an injunction.[11] The new patent policy also limited the availability to obtain an injunction to circumstances where the implementer fails to comply with the outcome of judicial proceedings over FRAND-setting disputes.[12]

Although the IEEE-SA Revised Patent Policy certainly provided some clarity on the meaning of FRAND, it was also designed to lower royalty rates and limit the aggregate royalty burden placed on a given standard. First, by focusing on the smallest saleable unit, the policy seeks to reduce the royalty base and tries to prevent patentees from anchoring jury awards in the value of larger end products (e.g., televisions with enhanced graphics versus the underlying graphics semiconductor chips).[13] Moreover, by limiting injunctive relief, the policy reduces the patentee's leverage. The justification for this policy is that it will lower the risk of "patent holdup"—the ability of a patent holder to extract rents unrelated to the contribution the patent claim makes to the standard.[14] Additionally, the second factor requires consideration of all other essential claims that contribute to a standard when looking at the value of a specific essential claim. This factor attempts to ensure that royalty rates only reflect value that an essential claim contributes to the standard. But it does so by considering the value that all essential claims contribute together.[15]

---

literally to mean offering identical terms to license seekers. Non-discriminatory has also been interpreted as a commitment to guarantee access to all willing licensees.").

[10] *See* IEEE-SA Revised Patent Policy, https://standards.ieee.org/about/policies/bylaws/sect6-7.html (available at https://perma.cc/2S6M-ME4D) (providing the IEEE-SA Standards Board Bylaws with an effective date of 2015). Those changes took effect on March 15, 2015. *See* Nicolas Petit, *The IEEE-SA Revised Patent Policy and Its Definition of "Reasonable" Rates: A Transatlantic Antitrust Divide?*, 27 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 211 (2017) (providing a thorough description of the new IEEE patent policy).

[11] IEEE-SA Revised Patent Policy, *supra* note 10 at 2.

[12] *Id*. at 4. The policy uses the term "prohibitive order" which is encompasses more than just injunctions. For example, the International Trade Commission typically issues an exclusion order when the patentee prevails. But this article uses the more familiar term "injunction" for simplicity's sake.

[13] *See* Bernard Chao, *The Case for Contribution in Patent Law*, 80 U. CIN. L. REV. 113, 137 (2011) (explaining how patentees can anchor juries in the larger values of end products thereby causing royalty awards to increase); *see* Petit, *supra* note 10.

[14] Mark Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 1993 (2007) (laying the theoretical foundation for patent holdup); Bernard Chao, *Causation and Harm in a Multicomponent World*, 164 U. PA L. REV. ONLINE 61, 74 (2015) (describing examples of when patent holdup does/does not occur in modern multicomponent devices); Petit, *supra* note 10, at 215–16.

[15] *See* Bernard Chao & Roderick O'Dorisio, *Saliency, Anchors & Frames: A Multicomponent Damages Experiment*, 26 MICH. TECH. L. REV. 1, 13–14 (2019) (suggesting that simultaneous

As companies seek to use SSOs to press SEP holders to lower their licensing rates, their collective conduct begins to look like anti-competitive price fixing, a *per se* antitrust violation.[16] In other words, the SSO begins to look like a monopsonist. That is why IEEE requested a business review letter from the U.S. Department of Justice before adopting its new patent policy.[17] The Antitrust Division of the Department of Justice obliged, and Renata Hesse, the Assistant Attorney for the Antitrust Division under Obama, issued a Business Review Letter on February 2, 2015 ("Initial Business Review").[18] While noting that "there is a danger of anticompetitive effects and antitrust liability" if the standards-setting process is biased, the letter found that the IEEE-SA Revised Patent Policy had "the potential to benefit competition and consumers by facilitating licensing negotiations mitigating hold up and royalty stacking, and promoting competition among technologies for inclusion in standards."[19] In the end, the Initial Business Review concluded that the policy's "potential procompetitive benefits likely outweigh those harms."[20]

However, the Trump administration had a significantly different view of antitrust law than the Obama administration. This is particularly true in the case of SSOs.[21] On November 10, 2017, Makan Delrahim, the new Assistant Attorney for the Antitrust Division, signaled a course reversal. In a public speech, he noted that SSO participants have incentives to "bend licensing negotiations to their benefit" and that "enforcers should carefully examine and recognize the risk that SSO participants might engage in a form of buyer's cartel, what economists call a monopsony effect."[22] In subsequent remarks, Delrahim would express similar concerns about collusive conduct by SSOs and the threat of monopsonies.[23]

---

valuation of multiple features may lower valuations of a specific patented feature to reflect more reasonable rates).

16 Arizona v. Maricopa Cnty. Med. Soc'y, 457 U.S. 332, 347 (1982) ("We have not wavered in our enforcement of the per se rule against price fixing."); *see also*, Herbert Hovenkamp, *The Rule of Reason*, 70 FLA. L. REV. 81, 99 (2018) (describing price fixing as "the most prominent example" of a *per se* antitrust violation); Justin R. Orr, *Patent Aggregation: Models, Harms, and the Limited Role of Antitrust*, 28 BERKELEY TECH. L.J. 525, 560 (2013) ("Agreements between competitors to restrain competition or fix prices are per se illegal under the Sherman Act section 1.").

17 Letter from Michael A. Lindsay, Esq., Dorsey & Whitney LLP, to William J. Baer, Assistant Att'y Gen., U.S. Dep't of Just. 15 (Sept. 30, 2014).

18 Letter from Renata B. Hesse, Assistant Att'y Gen., U.S. Dep't of Just., to Michael A. Lindsay, Esq., Dorsey & Whitney LLP (Feb. 2, 2015).

19 *Id*. at 7, 16.

20 *Id*. at 16.

21 *See, e.g.*, Christopher R. Leslie, *The DOJ's Defense of Deception: Antitrust Law's Role in Protecting the Standard-Setting Process*, 98 OR. L. REV. 379, 400–01 (2020) (explaining how the Trump administration no longer viewed patent holdup and the violations of a FRAND commitment as antitrust problems).

22 Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Just., *Take It to the Limit: Respecting Innovation Incentives in the Application of Antitrust Law* (Nov. 10, 2017) [hereinafter *Take it to the Limit*].

23 *See, e.g.*, Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't. of Just., *"Telegraph Road": Incentivizing Innovation at the Intersection of Patent and Antitrust Law* (Dec. 7, 2018) [hereinafter *Telegraph Road*] (discussing "potential antitrust problem[s] where a group of product

But it was not until September 10, 2020, that Delrahim took the "extraordinary step to supplement" the February 2, 2015 Business Review Letter with a new letter to the IEEE ("Updated Business Review").[24] The Updated Business Review justified the new guidance by saying that the Initial Business Review "has been cited, frequently and incorrectly, as an endorsement of the IEEE Policy, which was not our purpose or intent."[25]

But the Updated Business Review does not merely supplement prior guidance; rather, it reverses that guidance. It starts from a controversial assumption that there is "little evidence" that patent holdup is a "significant problem." [26] The letter goes on to reject limits on the ability of SEP holders to obtain injunctions saying that such limits "harm incentives for future innovation."[27] While the Updated Business Review does not explicitly reject the idea that royalty determinations should only be made by examining licenses that were NOT obtained under the threat of an injunction, the letter's logic suggests that the threat of injunction should be irrelevant. Under the Updated Business Review, licenses that were made under the threat of injunction would be considered in determining royalty rates.

Moreover, the Updated Business Review was critical of the Initial Business Review's focus on calculating royalties based on the smallest saleable patent practicing unit (SSPPU). While the new guidance did not reject the concept, it argued that the Initial Business Review "increases the likelihood that SSPPU will play an important – and potentially outsized – role in [royalty] negotiations."[28] As a result, the Updated Business Review deemphasized the role of SSPPU in negotiating royalties and concluded that "there is no single correct way to calculate a reasonable royalty in the FRAND context."[29]

Finally, the new guidance concluded by warning that "a group of implementers working collectively may have both the motive and the means to impose anticompetitive policies or rules," and it warned that such "collusion" can be a "serious threat to innovation."[30] In short, the Updated Business Review appears to

---

manufacturers within a standard-setting organization come together to dictate licensing terms to a patent holder as a condition for inclusion in a standard because it may be a collective exertion of monopsony power over the patent holder.").

24 Letter from Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Just., to Sophia A. Muirhead, Gen. Couns. & Chief Compliance Officer, IEEE (Sept. 10, 2020) [hereinafter Updated Business Review].

25 *Id.* at 1.

26 *Id.* at 4 n.18; *see* Carl Shapiro & Mark A Lemley, *The Role of Antitrust in Preventing Patent Holdup*, 168 U. PA. L. REV. 2024, 2028–29 (2019) (labeling arguments that patent holdup is rare or unproven "specious" and reviewing the extensive literature showing the existence of holdup); *see generally* Jorge L. Contreras, *Much Ado About Holdup*, 2019 U. ILL. L. REV. 875 (2019) (reviewing arguments about the existence of holdup).

27 Updated Business Review, *supra* note 24, at 6.

28 *Id.* at 7.

29 *Id*. at 8.

30 *Id*. at 11.

now view the IEEE-SA Revised Patent Policy as an example of anticompetitive collusion that is subject to antitrust law.

As part of the transition to the Biden Administration, Delrahim left the U.S. Department of Justice's Antitrust Division. The new administration has already reclassified the 2020 Updated Business Review as "advocacy" from "supplement," its original classification.[31] Commentators have interpreted this action as walking back Delrahim's Updated Business Review.[32] Nonetheless, his policies represent one view of how antitrust law should apply to SSOs. That view considers SSOs as potentially harmful monopsonies. At first blush, this may make sense because companies can use SSOs to cooperatively create policies that lower SEP licensing rates. However, this article explains why Delrahim's policy misunderstands the economic theory of monopsonies, a theory that does not apply equally well to artificially scarce goods such as patent licenses. The Biden administration has already said that it will change antitrust policy as it relates to patents, and this article hopes to describe applicable economic theory to justify specific changes as they relate to SSOs.

II. The Economics of Monopsonies

A. The Four Categories of Goods

Microeconomic theory recognizes four categories of goods.[33] Goods fall into one of these categories based on two distinguishing characteristics: 1) whether they are rivalrous and 2) whether they are excludable.[34] Rivalrous goods are those goods that cannot be simultaneously consumed; that is, one party's use, ownership, or possession bars another's use, ownership, or possession.[35] Owners of excludable goods are able to charge for their consumption.

Table 1 below shows the four categories of goods and provides examples for each category. Private goods are excludable and rivalrous.[36] Examples of private goods include milk, cars, and labor markets. Common-pool resources are rivalrous and non-excludable.[37] Public goods are non-rivalrous and non-excludable.[38] Most saliently for our analysis are artificially scarce goods, also known as club goods.

---

31 *See Comments to States and Other Organizations*, U.S. DEP'T OF JUST., (available at https://www.justice.gov/atr/comments-states-and-other-organizations) ("The DOJ is restoring the 2015 [BRL] to its original state by moving the 2020 [Supplement] to the competition advocacy portion of our website, and removing a watermark that had been placed on the 2015 [BRL]. This action is a return to previous practice that is consistent with existing department regulation.").

32 Ben Remaly, *DOJ appears to walk back Delrahim's IEEE business review letter*, GLOBAL COM. REV. (Apr. 15, 2021), https://globalcompetitionreview.com/gcr-usa/department-of-justice/doj-appears-walk-back-delrahims-ieee-business-review-letter.

33 PAUL KRUGMAN & ROBIN WELLS, MICROECONOMICS 490 (4th ed. 2015).

34 *Id.*

35 *Id.*

36 *Id.*

37 *Id.* at 491.

38 *Id.*

Artificially scarce goods are non-rivalrous and excludable.[39]

Table 1: Categories of Goods with Examples

	Rival	Non-rival
Excludable	Private goods • Milk • Cars	Artificially Scarce/Club goods • Pandora, Netflix • Computer software
Non-excludable	Common-pool resources • Clean air • Fish stocks in the sea	Public goods • Non-toll highways • Street lighting

B. Private Good Monopsonies

In basic economic courses, students usually spend most of their time studying private goods.[40] This focus on private goods includes the study of monopolies and monopsonies.[41] In the context of private goods, both monopolies and monopsonies harm competition by reducing consumer welfare. A very abbreviated explanation of the mechanism underlying these harms follows.

In a market for private goods, monopolies and monopsonies both prevent the market from reaching its socially optimal price and output.[42] Figure 1(a) shows the standard supply and demand curves in a perfectly competitive market for private goods. The market equilibrium occurs at price P_e and quantity Q_e.[43] This point is socially optimal because 1) at points less than Q_e, producing more goods will enhance consumer welfare as the marginal benefit is greater than the marginal cost, and 2) at points greater than Q_e, marginal cost is higher than the marginal benefit, suggesting that it does make economic sense for the market to consume this quantity. Figure 1(b)

---

39 *Id.*

40 A.D. Wood, *A model to teach non-rival and excludable goods in undergraduate microeconomics*, 24 INT'L REV. ECON. EDUC. 28, 29 (2017) ("[The] four types [of goods], however, do not receive equal attention in terms of student instruction. Private goods . . . earn an exhaustive treatment because they demonstrate the effectiveness of the market mechanism.").

41 Jonathan M. Jacobson & Gary J. Dorman, *Monopsony Revisited: A Comment on Blair and Harrison*, 37 ANTITRUST BULL. 151, 157 (1992) ("[E]conomics texts typically use labor markets to illustrate monopsony issues.").

42 RICHARD B. MCKENZIE & DWIGHT R. LEE, IN DEFENSE OF MONOPOLY: HOW MARKET POWER FOSTERS CREATIVE PRODUCTION 25–30, 126–30 (2008).

43 ROBERT FRANK, BEN BERNANKE, KATE ANTONOVICS & ORI HEFFETZ, PRINCIPLES OF MICROECONOMICS 62–64 fig.3.6 (7th ed. 2019).

illustrates what happens when a monopolist artificially raises prices ($P1_{>e}$). Because the price has increased, buyers will purchase fewer products ($Q1_{<e}$). This is an inefficient outcome because at points between $Q1_{<e}$ to Q_e, the benefit of consuming the good is greater than the cost of supplying the good. Nonetheless, the units are not consumed. This loss is called the deadweight loss ("DWL") and is shown in the shaded area.

Thus, it should come as no surprise that the Supreme Court has long held that price fixing by sellers is a *per se* antitrust violation.[44] Conduct that qualifies as a *per se* violation of antitrust law is condemned whenever it occurs, regardless of circumstances.[45] However, if conduct is categorized under the rule of reason, courts make a more refined inquiry into the conduct's effect on competition.[46]

Figure 1(c) shows that the results of a monopsony are quite like the results of a monopoly. In the monopsony case, the buyer uses its market power to lower the price, ($P2_{<e}$). Because the price has decreased, suppliers will sell fewer products ($Q2_{<e}$). Again, the outcome is inefficient because at points between $Q2_{<e}$ to Q_e, the benefit of consuming the good is greater than the cost of supplying the good. Again, there is deadweight loss (DWL) shown in the shaded area.

Figure 1

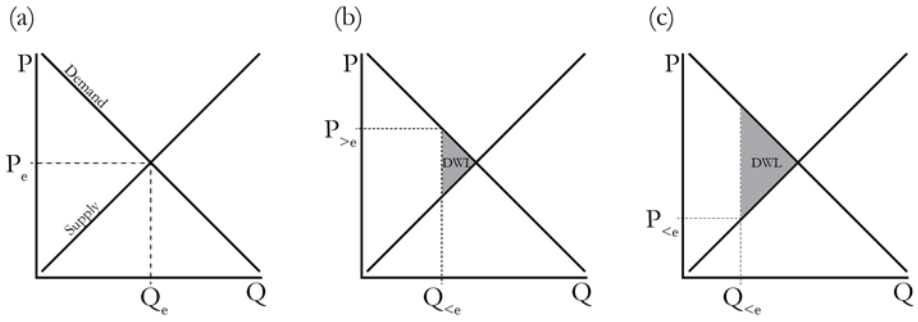

Figure 1. Market for private goods. (a) Where the supply and demand curves cross, competition produces an equilibrium price (P_e) for an optimal amount of produced goods (Q_e) and there is no deadweight loss (DWL); (b) Under monopoly conditions when the price is greater than P_e, the quantity of goods is less than Q_e and deadweight loss (DWL) occurs; (c) Under monopsony conditions when the price the market is willing to pay for goods is suppressed below P_e, there is also deadweight loss.

---

44 *See, e.g.*, Arizona v. Maricopa Cnty. Med. Soc'y, 457 U.S. 332, 342–348 (1982) ("The maximum-fee agreements, as price-fixing agreements, are per se unlawful under § 1 of the Sherman [Anti-Trust] Act."); United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 221–22 (1940) ("any agreement for price-fixing would have been illegal per se").

45 Phillip E. Areeda & Herbert Hovenkamp, ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 1511 (4th ed. & 5th ed., 2021 Cum. Supp. 2013-20).

46 *Id*.

In short, in the context of private goods, monopsonies also harm competition by reducing output in socially inefficient ways.[47] Thus, like the case for monopolies, price fixing by monopsonies has been held to be a *per se* antitrust violation. For example, in *Mandeville Island Farms v. American Crystal Sugar Co.*, the Supreme Court found that an agreement by sugar refiners to fix the price they paid for sugar beets violated antitrust law.[48] As part of its analysis, the Court specifically refused to distinguish between purchasers and sellers.[49] Importantly, monopsonies cases like *Mandeville Island Farms* typically involve only private goods.

C. Artificially Scarce Good Monopsonies

Years before Delrahim complained about patent monopsonies, several prominent commentators explained that the economic characteristics of intellectual property (including patents) were different and argued that intellectual property monopsonies do not harm competition.[50] However, these commentators did not root their discussion in the theory of artificially scarce goods. By connecting their ideas to the established literature on artificially scarce goods, we hope to show that their arguments are not unconventional. Rather, they are theories well supported by fundamental, mainstream economic principles.

The economic effects of patent monopsonies are quite different from the private goods story described in the preceding section. That is because patent licenses are artificially scarce goods. We can look at a patent's characteristics to confirm this point. First, patent licenses are not rivalrous. The fact that one company takes a license does not affect whether another company takes a license. Indeed, the patent owner is free to grant as many licenses as it wants. A good example of this is the Open Covid Pledge where companies agreed to make their intellectual property (including patents) available free of charge to those using the technology to fight the

---

47 They also have the additional effect of transferring economic rents from the sellers of the private good to the monopsonistic buyers, but this is not the kind of efficiency problem that concerns antitrust law.

48 Mandeville Island Farms v. American Crystal Sugar Co., 334 U.S. 219 (1948); *see also* Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co., 549 U.S. 312 (2007); Areeda & Hovenkamp, *supra* note 45 at ¶395e ("Collusive monopsony is a per se violation of the Sherman Act and invokes §4 of the Clayton Act.").

49 *Id.* at 235 (applying the "[Sherman] Act, even though the price fixing was by purchasers, and the persons specially injured under the treble damage claim are sellers, not customers or consumer.").

50 *See* Hillary Greene, *Non-Per Se Treatment of Buyer Price Fixing in Intellectual Property Settings*, 10 DUKE L. & TECH. REV. 57, ¶ 4 (2011) ("[For IP] a buyer conspiracy could constitute a welfare-enhancing countervailing force against seller market power-without introducing price inefficiencies."); Carrier, *supra* note 4 at 338–39 (2009) (after noting the flat supply curve, Carrier concludes that "[T]he primary concern for of monopsony - the welfare loss of fewer inputs purchased – thus does not apply to IP."); Joseph Farrell, John Hayes, Carl Shapiro & Theresa Sullivan, *Standard Setting, Patents, and Hold-Up*, 74 ANTITRUST L.J. 603, 632 (2007) ("[A] lower royalty rate will (ex post efficiently) increase sales of products complying with the standard . . . .").

Covid-19 pandemic.[51] Second, a patent gives the patentee the right to exclude others from making, using, and selling the invention.[52] Thus, unless a company has a license, it may not use the patented technology. In this way, patent licenses are far more like Pandora and Netflix (classic artificially scarce goods), and quite different from milk and furniture (classic private goods).

Like other artificially scarce goods, patent licenses do not have the familiar upward sloping marginal cost/supply curve.[53] Private goods have an upward sloping supply curve because a company's marginal costs increase as a company supplies more units of the good. Thus, the supplier is only willing to supply additional units at a higher price. But because the cost model for artificially scarce goods differs from that of private goods, the supply curve for artificially scarce goods looks quite different. The production of one additional unit of an artificially scarce good has minimal cost. For example, Netflix incurs essentially no cost when it adds one more subscriber.[54] Similarly, a patent owner incurs minimal cost when it grants an additional license to another company. The cost of granting the next license is simply the transactional cost of negotiating and drafting a license. That means a company's marginal cost is a flat horizontal line with a value close to zero for all quantities.[55]

Figure 2a shows the demand and marginal cost curves for patent licenses. The marginal cost of creating each additional license is low and the curve is flat. The efficient price and quantity exist at the intersection of the marginal cost curve and demand curves (P_e, Q_e). As shown in Figure 2b, if the supplier raises the price to P_1, Q_1 becomes smaller than Q_e. This result is inefficient because the benefit of additional licenses outweighs the marginal cost. The result is deadweight loss (DWL) that grows as the supplier continues to raise the price (see Figure 2c).

---

51 *See Open Covid Pledge*, https://opencovidpledge.org/ (last visited Jul. 5, 2021).

52 35 U.S.C. § 271.

53 Joseph Farrell et al., *supra* note 50, at 632 ("[T]here is no upward-sloping supply curve where the supplier is providing intellectual property.").

54 *See* Krugman & Wells, *supra* note 33, at 491 (describing how the marginal cost of allowing additional subscribers access to an already produced and broadcast on-demand Netflix movie is effectively zero).

55 *See, e.g.*, Wood, *supra* note 40, at 30 fig.1 (showing marginal cost to be zero for artificially scare goods); Greene, *supra* note 50, at ¶ 32 (discussing intellectual property as having "a flat supply curve").

Figure 2

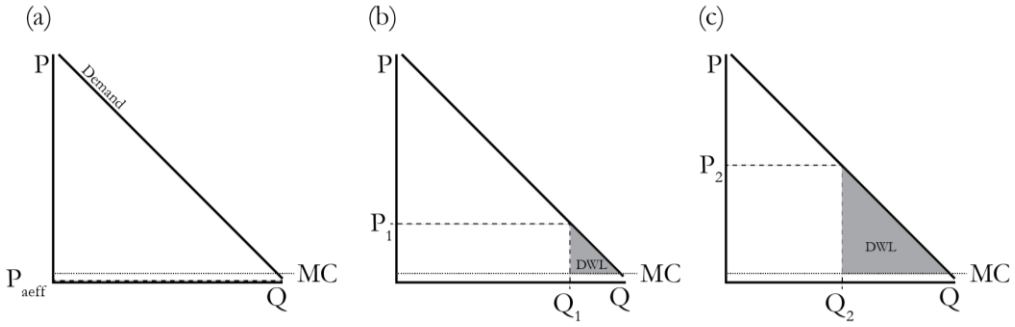

Figure 2. Market for artificially scarce goods. (a) Market efficiency occurs where P = MC (P_{aeff}), (b) The supplier has the ability to raise price to P1 which reduced quantity to Q1 and results in deadweight loss DWL; (c) As the price is raised further to P2, the deadweight loss grows.

Of course, in the real world, patent licenses are not found at the equilibrium point (P_e, Q_e). For Gregory Sidak, a critic of patent monopsonies, this suggests that the "flat supply curve for patents" theory must be wrong.[56] But the theory of artificially scarce goods never suggests that the price and quantity of such goods reach the efficient point. Indeed, what Sidak and some others have labeled the "flat supply curve" is not a supply curve at all. It is a flat marginal cost curve.[57] For artificially scarce goods, suppliers invariably charge more than their marginal cost.[58] That is because they can artificially restrain supply and increase prices.[59] In concrete terms, Netflix does not simply charge its customers the marginal cost of supplying them service; rather, it charges more. Thus, unlike the market for private goods, the supply curve for artificially scare goods diverges from the marginal cost.

The same is true for patent licenses. Because patent owners are the sole owner

---

56 J. Gregory Sidak, *Patent Holdup and Oligopolistic Collusion in Standard-Setting Organizations*, 5 J. OF COMP. L. & ECON. 123, 155 ("According to the 'flat supply curve for patents conjecture, technology patent holders will license the patent to all interested purchasers at PC, which is equal or approximate to zero.").

57 *See, e.g.*, Greene, *supra* note 50, at ¶ 32 (describing the supply curve for IP as flat instead of simply saying that the marginal cost curve is flat.). This is an understandable mistake because the supply and marginal cost curves for private goods overlap. However, that is not the case for artificially scare goods. Importantly, this mistake in terminology does not change the validity of her analysis.

58 Daron Acemoglu, David Laibson & John A. List, MICROECONOMICS, at 217 (2d. ed 2018) (explaining that artificially scarce goods tend to be priced above marginal cost to cover fixed costs); Wood, *supra* note 40, at 32 ("the private outcome offers a higher price, a lower quantity, a smaller consumer surplus, a larger producer surplus, and deadweight loss.").

59 *Id*. ("[artificially scarce] goods typically are not sold in perfectly competitive markets," suggesting that the supplier can raise their price). This characteristic applies SEP holders.

of their unique patent rights, they can, and do, charge more than their marginal cost.[60] Indeed, Mariko Sakibara suggests that patent license pricing is based on: (1) the reservation price of the patent licensor, (2) the potential profitability of the patent to be licensed, and (3) the relative bargaining power of licensors and licensees.[61] Of course the third factor, bargaining power, tends to favor the licensors when their patent is essential to a standard. In practice, this means the price for a given license will invariably be higher than the socially optimal price and the quantity of licensed products will be lower than the socially optimal quantity. This outcome is precisely what the economic theory of artificially scarce goods predicts. The market for artificially scarce goods is not efficient. As shown in Figures 2b and 2c above, consumption is "inefficiently low" or "artificially scarce" because suppliers raise their price above their marginal cost.[62]

In practical terms, the deadweight loss can be thought of as low-end technology implementers who cannot afford to use a particular standard because the rates are too high or implementers that simply make fewer, more expensive licensed products for a given standard. For example, it may make sense for an implementer to put Wi-Fi in laptops because the profits margins are high, but not in doorbells where the margins are lower. Thus, if a patent monopsony can successfully decrease prices, it is increasing consumer welfare by enabling doorbells to use Wi-Fi.

III. How Biden's Antitrust Department Should Treat SSOs

A. Protecting Static Consumer Welfare

These insights should shape antitrust policy. When groups of potential licensees engage in monopsonistic behavior, they are working together to lower the price of patent licenses. They often justify their tactics by suggesting that they are counterbalancing the undue leverage standard essential patent (SEP) holders may have.[63] Indeed, that appears to be what the IEEE did when it approved the IEEE-SA Revised Patent Policy. But this "collusion" does not harm consumer welfare. As Figures 2(a)-(c) illustrate, and the literature on artificially scarce goods shows, to the extent that monopsonies successfully lower prices, they reduce deadweight loss and increase consumer welfare. Thus, it should come as no surprise that patent monopsonies do not harm consumer welfare. They enhance it. This conclusion is inevitable based on the fundamental economics of artificially scarce goods.

In sum, while economic theory shows that monopsonies decrease consumer welfare in the context of private goods, the reverse is true in the context of artificially

---

60 Sidak, *supra* note 56, at 155 (noting patent holders do license their patents at marginal cost).

61 Mariko Sakibara, *An empirical analysis of pricing in patent licensing contracts*, 19 INDUS. & CORP. CHANGE 927, 928 (2010).

62 Krugman & Wells, *supra* note 33, at 503–04; Wood, *supra*, note 40, at 32.

63 *See* Schuster & Day, *supra* note 7, at 589 (arguing that prospective licensees should be able to collude against SEP holders).

scarce goods. For goods like patent licenses, monopsonies are likely to increase consumer welfare. But the Director of the Antitrust Division under Trump appeared to consider patents as private goods. In speech after speech, Delrahim repeatedly used the term "monopsony" to suggest a competitive problem. For example, on December 7, 2018, he suggested that SSOs that exert "monopsony power" to dictate licensing terms were "a potential antitrust problem."[64] On June 6, 2019, Delrahim said that the Justice Department "[would] not hesitate to take action" against those that use standards bodies to "create a monopsony effect, driving down licensing rates."[65] Other speeches from 2017 to 2020 similarly suggested that monopsonies were an antitrust problem.[66] Together these passages demonstrate that Delrahim does not understand that patent licenses are artificially scarce goods and that such goods do not suffer from the same anticompetitive concerns as private goods.

These findings have important implications for antitrust policy. As Tom Cotter put it, "as a general matter most observers would agree that antitrust should tolerate conduct (either unilateral or joint) that generates greater efficiency gains than losses."[67] That principle applies directly to SSOs that seek to lower patent royalty rates. Their behavior increases consumer welfare. Therefore, to the extent that the Department of Justice under Biden is concerned about consumer welfare, it should not use antitrust law to prosecute patent monopsonies. However, this conclusion does not necessarily end the inquiry. One might reasonably wonder if antitrust law should be used to achieve goals beyond consumer welfare. In particular, should antitrust law sacrifice consumer welfare to further patent law goals?[68]

B. Patent Law and Incentives for Future Innovation

While the Director of the Antitrust Division may have simply misunderstood basic economic theory, it is more likely that competitive concerns did not motivate Delrahim's antitrust policy with respect to SSOs. Delrahim and his supporters appear to have been using antitrust law to achieve a very different goal: stronger patent rights.[69] While antitrust law certainly has a role in guarding against conduct that suppresses innovation, antitrust law was never meant to create innovation incentives

---

64 *Telegraph Road*, *supra* note 23, at 8.

65 Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Just., *Organisation for Economic Co-operation and Development "Licensing of IP Rights and Competition Law"* 5 (Jun. 6, 2019).

66 Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Just., *The "New Madison" Approach to Antitrust and Intellectual Property Law* 7–8 (Mar. 16, 2018) [hereinafter *The "New Madison" Approach*]; *Take It to the Limit*, *supra* note 22, at 10.

67 Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L. 1151, 1157 (2009).

68 *See* Greene, *supra* note 50 (explaining the tradeoff between "future innovation" and "lowering current price.").

69 *See* Jorge L. Contreras, *Rationalizing U.S. Standardization Policy: A Proposal for Institutional Reform*, 34 ANTITRUST 41, 44 (2021) (discussing the antitrust division's "effort to shape the law in ways favorable to patent holders . . . ."); Leslie, *supra* note 21, at 425 (Delrahim "seems to think anything done by a patentholder is necessarily pro-competitive.").

itself. That has been the traditional role of patents.[70] Ideally, different patent law doctrines calibrate incentives to properly encourage innovation without unduly discouraging subsequent follow-on innovation. Examples of these doctrines include claim scope, patent term, and remedies.[71] Each of these doctrines can tilt incentives in favor of either initial innovation or follow-on innovation. For example, providing too small a remedy can under-incentivize initial innovation. Providing too large a remedy can disincentivize subsequent follow-on innovation.[72] Adding antitrust law to this mix makes little sense because it only applies when either patent owners (suppliers) or their licensees (purchasers) have market power. But there is little reason to believe that patent incentives need to be stronger in these markets. Indeed, given the large rewards that can come with a successful standard, the opposite is likely true when considering the markets that have SSOs.[73]

Nonetheless, Delrahim has sought to inject antitrust law into the way patent remedies operate. He has repeatedly argued that strong patent remedies are necessary to provide incentives for innovation (without distinguishing between incentives for initial and follow-on innovation). Even before Delrahim was appointed to lead the Antitrust Department, he said, "[a]ntitrust enforcers should . . . strive to eliminate as much as possible the unnecessary uncertainties for innovators and creators in their ability to *exploit* their intellectual property rights."[74] At the Antitrust Department, Delrahim continued to connect antitrust policy to strong patent incentives. In one speech, Delrahim said that consumer welfare "is not synonymous with a policy always favoring lower prices."[75] At least in some instances, antitrust enforcement should protect behavior that results in higher prices "so that others will have incentives to innovate."[76] This thinking eventually found its way into the Updated

---

70 *See* Cotter, *supra* note 67, at 1205 (criticizing the use of antitrust law to change the patent incentive scheme and saying ". . . any flaws in the patent incentive scheme should be corrected instead within the framework of patent law itself."); Herbert Hovenkamp, *Antitrust and the Patent System: A Reexamination*, OHIO ST. L. J. 467, 515 (2015) ("A practice that is expressly authorized by the Patent Act cannot be the basis of an antitrust claim."). Of course, here the conduct is simply consistent by established patent case law.

71 *See e.g.*, Brian Love, *An Empirical Study of Patent Litigation Timing: Could a Patent Term Reduction Decimate Trolls without Harming Innovators?*, 161 U. PENN. L. REV. 1309, 1353–55 (2013); Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29, 32 (1991) ("[S]uch broad protection can lead to deficient incentives to develop second generation products.").

72 Bernard Chao, *Lost Profits in a Multicomponent World*, 59 B.C. L. REV. 1391, 1342 (2018) ("Allowing patentees a disproportionately large remedy harms innovation by disincentivizing others from developing complementary technology that either builds on or works with other technology.").

73 Shapiro & Varian, *supra* note 4, at 236 ("Companies developing new technology *collectively* tend to welcome standards, because standards typically expand the total size of the market and may even be vital for the emergence of the market in the first place.").

74 ANTITRUST MODERNIZATION COMM'N: R. & RS.404–405 (2007) (individual comments of the then Commissioner Makan Delrahim) [hereinafter ANTITRUST MODERNIZATION REPORT] (emphasis added).

75 *The "New Madison" Approach*, *supra* note 66, at 7.

76 *Id.*

Business Review that Delrahim sent to the IEEE. The letter said, "[d]enying essential patent holders access to injunctive relief has the potential to lessen returns for inventors and thereby to harm incentives for future innovation."[77]

Other prominent advocates of stronger patent rights agree with Delrahim. For example, Sidak argues that "[t]he main economic harm of this monopsonistic model is an important dynamic inefficiency that the 'flat supply curve for patents' conjecture overlooks."[78] In other words, the application of antitrust law is ostensibly justified to ensure sufficient incentives for innovation. Notably, this view does not worry about allocative efficiency, the classic rationale for using antitrust law to prosecute price fixing monopsonists.

1. IEEE Revised Patent Policy and Apportionment

In this section, we explain why the Trump administration's use of antitrust law to boost patent remedies is not justified. As discussed earlier, antitrust law should not interfere with the choices patent law makes. As applied to the monopsony issue, that means that antitrust law should not meddle with SSO policies that are based on existing patent principles. The IEEE Revised Patent Policy is precisely that kind of policy. It relies on two core patent principles: apportionment and concerns about patent holdup. We address each of these issues in turn.

Delrahim's policies overlooked the problem of inflated patent damages awards, particularly in cases involving complex multicomponent problems. In response to concerns about disproportionate patent awards, one of the authors has repeatedly argued for the need to make sure that patent damages reflect the relative contribution that a patent makes to the infringing product/standard.[79] This concept is called "apportionment," and it has roots in century old Supreme Court precedent.[80] Importantly, the doctrine continues to be a fundamental part of patent remedies today.[81]

---

[77] Updated Business Review, *supra* note 24, at 6; *see also* Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dept. of Just., Protecting Free-Market Patent Bargaining, Competition, and the Right To Exclude 6 (Oct. 10, 2018) (transcript available online with the U.S. Department of Justice) ("Depriving a patent holder of [the right to exclude] would skew the bargain away from the free-market incentive scheme that the Constitution and Congress have established."); *Telegraph Road*, *supra* note 23, at 7 ("[S]ome standard-setting organizations may make it too easy for patent implementers to bargain collectively and achieve sub-optimal concessions from patent holders that undermine the incentive to innovate.").

[78] Sidak, *supra* note 56, at 157; *see also* Damien Geradin & Miguel Rato, *Can Standard-Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of Fraud*, 3 EUR. COMP. J. 101, 134 (2007) ("This would dimmish the licensors' incentive to invest in R&D and potentially hamper innovation.").

[79] *See, e.g.*, Bernard Chao, *Implementing Apportionment*, 2019 PATENTLY-O PAT. L. J. 20 (2019) (discussing the difficulties of implementing apportionment); Chao, *The Case for Contribution in Patent Law*, *supra* note 13.

[80] Garretson v. Clark, 111 U.S. 120 (1884).

[81] *See, e.g.*, Elbit Sys. Land & C4I Ltd. v. Hughes Network Sys., LLC, 927 F.3d 1292, 1301 (Fed. Cir. 2019); Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1232 (Fed. Cir. 2014).

While apportionment is easy to describe in theory, it is very difficult to operationalize. Juries have proven to be quite susceptive to anchoring.[82] In other words, they often frame their verdict based on an unusually large number suggested by a patent owner even when the large number of relevant patents that contribute to a product/standard's success would suggest a much lower figure.[83] And because licenses are negotiated in the shadow of litigation, these verdicts increase licensing rates accordingly.[84]

The IEEE-SA Revised Patent Policy includes factors designed to counter this problem when determining reasonable licensing rates. The policy suggests that negotiators should consider: 1) the contribution essential claims make to the smallest saleable unit, and 2) the value of all other essential claims. By focusing the analysis on these factors, the IEEE-SA Revised Patent Policy is merely attempting to ensure that negotiators focus on the value a patent contributes as opposed to value contributed by other inputs.[85] This is the essence of patent law's apportionment principle, and antitrust law should not reject this basic patent principle.

2. IEEE Revised Patent Policy and Patent Holdup

In the context of SSOs, patent "holdup" occurs when a standard essential patent (SEP) holder tries to base its royalty rate on the fact that its patent is essential to a standard, as opposed to simply considering the value the patent contributes.[86] Patent holders can use injunctions to hold up potential licensees in these cases.[87] The IEEE-SA Revised Patent Policy seeks to respond to the holdup problem in two ways. First, the policy suggests that one factor for determining reasonable rates should be considering existing licenses covering use of the essential patent claim, where such

---

82 Chao & O'Dorisio, *supra* note 15, at 35 ("For now, we still have not identified a particularly effective response to a plaintiff that anchors the jury in an irrationally high number.").

83 Thomas F. Cotter, *Patent Damages Heuristics*, 25 TEX. INTELL. PROP. L.J. 159, 200 (2018) (discussing the risk that patent juries will issue inflated award because of anchoring).

84 Erik Hovenkamp & Jonathan Masur, *How Patent Damages Skew Licensing Markets*, 36 REV. LITIG. 379, 385 (2017) ("Because all patent licensing occurs in the shadow of litigation, patent remedies play a prominent role in shaping licensing behavior.").

85 IEEE-SA Revised Patent Policy, *supra* note 10, at 2.

86 Sidak, *supra* note 56 ("[I]n an SSO, patent owners can 'hold up' patent users in the sense of demanding high royalties for a patented input after the SSO has adopted the patented technology as an industry standard"); *see generally* Bernard Chao, *Horizontal Innovation and Interface Patents*, 2016 WISC. L. REV. 287 (2016) (explaining how patents can have value based on the fact that they advance innovation and provide compatibility); *see also* Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1233 (Fed. Cir. 2014) ("When a technology is incorporated into a standard, . . . that technology is not always used because it is the best or the only option; it is used because its use is necessary to comply with the standard.").

87 Lemley & Shapiro, *Patent Holdup and Royalty Stacking*, *supra* note 14, at 2025 ("Injunctions give patent owners in component industries the ability to demand a disproportionate share of the value of the integrated product."); *see also* Chao, *Horizontal Innovation and Interface Patents*, *supra* note 86, at 289 (explaining how injunctions allow patentees to extract value simply because a patent makes a product compatible with other products or a standard).

licenses were NOT obtained under the threat of an injunction.[88] In other words, do not consider other licenses when they were negotiated under the threat of holdup. The prices for those licenses are likely inflated. Second, the policy limits the ability to obtain an injunction to circumstances where the implementer fails to comply with the outcome of judicial proceedings over FRAND-setting disputes.[89] In other words, remove the threat of holdup when negotiating licenses that are subject to FRAND commitments.

Delrahim justified his concern about the IEEE-SA Revised Patent Policy by suggesting that holdup was not a significant problem. [90] We disagree and side with Shapiro, Lemley, and the many others that say holdup deserves attention. Indeed, in 2018, seventy-seven former government enforcement officials (from both parties) and professors (including one of the authors) wrote to Delrahim complaining about his views on a variety of issues including patent holdup.[91] To be sure, there are commentators on the other side.[92] But as Lemley and Timothy Simcoe have pointed out, companies like Qualcomm have made "extraordinary efforts" to fund scholarship and "even entire centers at universities devoted to influencing the answers to these questions."[93] That fact does not automatically disqualify these views, but it does invite healthy skepticism. It is beyond the scope of this paper to analyze the debate on patent holdup. The literature is extensive, and Shapiro and Lemley do an admirable job summarizing it.

In short, the weight of evidence shows that patent holdup is a problem. The IEEE-SA Revised Patent Policy responds to this problem by seeking to base royalty rates on the value the SEP contributes as opposed to any value that SEP holders may extract through patent holdup. Antitrust law should not object to that policy. To do

---

88 IEEE-SA Revised Patent Policy, *supra* note 10, at 2.

89 *Id*. at 4.

90 Updated Business Review, *supra* note 24, at 4 n.18, 6.

91 *See* Letter from Seventy-Seven Former Government Enforcement Officials and Professors, to Makan Delrahim, Assistant Att'y Gen., at 1–4 (May 17, 2018), https://perma.cc/66B6-F5GB. For a literature review and arguments that say holdup is a problem, *see* Shapiro & Lemley *supra* note 26; *see also* Terrell McSweeny, Fed. Trade Comm'r, Holding the Line on Patent Holdup: Why Antitrust Enforcement Matters (Mar. 21, 2018) available at https://www.ftc.gov/system/files/documents/public_statements/1350033/mcsweeny_-_the_reality_of_patent_hold-up_3-21-18.pdf (discussing "15 years of scholarship and bipartisan study . . . .").

92 *See* Jonathan M. Barnett, *Has the Academy Led Patent Law Astray*, 32 BERKELEY TECH. L. J. 1313, at 1344–1361 (2017) (arguing that every study and several industry reports fail to find persuasive evidence of holdup in smartphone and IT markets); J. Gregory Sidak, *The Antitrust Division's Devaluation of Standard-Essential Patents*, 104 GEO. L.J. ONLINE 48, at 61 (2015) (labeling patent holdup as "conjecture" and saying that others have disproved both assumptions and predictions of holdup); *see also* Letter from Thirteen Former Government Officials and Professors, to Makan Delrahim, Assistant Att'y Gen. (February 13, 2018), available at https://cip2.gmu.edu/wp-content/uploads/sites/31/2018/02/Letter-to-DOJ-Supporting-Evidence-Based-Approach-to-Antitrust-Enforcement-of-IP.pdf.

93 Mark A. Lemley & Timothy Simcoe, *How Essential Are Standard-Essential Patents?*, 104 CORNELL L. REV. 607, 614 (2019).

otherwise would simply help those SEP holders that seek to engage in patent holdup.

Finally, we also agree with others that suggest that making a promise to license an SEP under FRAND terms should limit an SEP holder's ability to obtain an injunction. FRAND commitments increase the likelihood that a standard will be adopted by the standards body and be commercially successful. However, if an SEP holder has committed to licensing their patent, it should come as no surprise that they cannot seek an injunction against a prospective licensee without first making a FRAND offer.[94] That is precisely what the IEEE-SA Revised Patent Policy requires.

3. SSO Patent Policies that Depart from Patent Principles

In theory, SSOs might go further than the IEEE-SA Revised Patent Policy. Instead of simply adopting rules that move royalty rates closer to what patent law envisions, SSOs may attempt to procure even lower rates. As a threshold matter, many commentators argue that these SSOs are unlikely to depress prices this far.[95] One reason is that SSO members are both licensors and licensees.[96] As licensors, members have an interest in being fairly compensated. Second, an SEP owner "has far more bargaining power than the typical seller confronting a monopsony."[97] SEP owners can refuse to join SSOs if they treat patent owners too harshly.[98] If they are not members, these patent owners are not bound by any FRAND promises and can still sue implementors unfettered by any SSO policies.

But even assuming an SSO adopts a patent policy that lowers rates below what patent law would set, our insights still provide a limited contribution to this question. This paper has explained that patents are artificially scarce goods. And, therefore, unlike private goods, lower patent prices increase allocative efficiency. Admittedly, the courts should also consider whether low prices will harm dynamic efficiency. In other words, did the conduct set innovation incentives too low? Here, we agree with others that suggest that courts should apply the rule of reason to this situation.[99]

---

94 Leslie, *supra* note 21, at 405 ("The patentholder has a general right to ask a court for an injunction, but this is a right that can be bargained away; a patentee who makes a FRAND commitment in exchange for possible inclusion in a standard has struck this bargain and should be held to it.").

95 Carrier, *supra* note 4, at 337; Gil Ohana, Marc Hansen & Omar Shah, *Disclosure and Negotiation of Licensing Terms Prior to the Adoption of Industry Standards: Preventing Another Patent Ambush?*, 24 EUROPEAN COMP. L. REV. 644, 654 (2003); *See* Dissenting Statement of Chairman Majoras, *In the Matter of Negotiated Data Solutions LLC*, File No. 0510094, at 4, *available at* https://www.ftc.gov/sites/default/files/documents/cases/2008/01/080122majoras.pdf.

96 Carrier, *supra* note 4, at 337; Ohana et al., *supra* note 95, at 654; Mark A. Lemley, *Intellectual Property Rights and Standard-Settings Organizations*, 90 CAL. L. REV. 1889, 1951 (2002).

97 Carrier, *supra* note 4, at 337.

98 *Id*.

99 Cotter, *supra* note 67, at 1205 ("When SSOs negotiate jointly with members over price, the first issue that should be addressed is the reason for joint conduct."); Carrier, *supra* note 4, at 339 (suggesting that patentees should be allowed to offer evidence of reduced innovation incentives, but suggesting that such show is unlikely); *but see* Greene, *supra* note 50, at ¶¶ 106–07 (rejecting a *per se* rule against buyer price fixing for intellectual property and suggest a "coarse screen" that does not amount to a full of reason balancing test).

Applying the rule of reason requires courts to consider whether the conduct as whole benefits or harms competition. There may be both pro-competitive and anti-competitive reasons for lowering prices this much. On the one hand, there may be cases where small or even royalty-free licenses are beneficial.[100] Alternatively, an SSO may simply be opportunistically suppressing the price of a competitor with innovative technology.

Finally, we wish to point out that many commentators believe that any harms of lower patent prices are overstated. For example, Robert Skitol has argued that the exercise of monopsony power is only a problem when it enables coerced output reductions.[101] In a slightly different vein, several commentators have argued that the effects of depressed licensing rates tend to be outweighed by the increased number of licenses caused by a successful standard.[102] In other words, on net, SEPs owners are likely to benefit from lower patent rates. On these two last points, we do not express an opinion. The latter argument is an empirical question whose outcome might well be case dependent. Nonetheless, these arguments highlight the many difficult issues involved in judging whether the most aggressive patent monopsonies should be subject to antitrust law. Of course, our primary point is that the less aggressive patent monopsonies (as exemplified by the IEEE Revised Patent Policy) should not concern antitrust authorities.

IV. Conclusion

The antitrust division in the Biden Administration has already signaled that it will turn back from some of Trump's patent policies. However, there has been little indication of what those new policies will be. This article seeks to explain why economic theory supports making specific changes to Trump's antitrust policy as it relates to SSOs. To fashion a sensible antitrust policy, regulators must understand that patent monopsonies differ in behavior than their more common private good counterparts. Monopsonies in private goods are inefficient and lead to deadweight loss. In contrast, monopsonies in artificially scarce goods like patents increase allocative efficiency as they push prices down. This outcome suggests that the Department of Justice should not use antitrust law to prosecute SSOs, particularly when those organizations are merely implementing policies that promote licensing rates that reflect the contribution an essential patent makes to a technical standard. That is precisely what the IEEE-SA Revised Patent Policy accomplishes.

---

[100] There are cases where participants have agreed to grant royalty free licenses to promote a standard/technology. The Open Covid pledge is one such promise. *See Open Covid Pledge*, *supra* note 51. *See also* Jorge L. Contreras, *A Tale of Two Layers: Patents, Standardization, and the Internet*, 93 DENV. U. L. R. 853 (2016) (pointing to the advantages of royalty free standards).

[101] Robert A. Skitol, *Concerted Buying Power: Its Potential for Addressing The Patent Holdup Problem in Standard Setting*, 72 ANTITRUST L.J. 727, 739 (2005) (citing to an extensive body of literature).

[102] Carrier, *supra* note 4, at 339; Ohana et al., *supra* note 95, at 654.