

**Prof. Adam Mossoff –
Innovation in America: How Congress
can make our patent system STRONGER
Questions for the Record
Submitted September 18, 2019**

QUESTIONS FROM SENATOR COONS

- 1. During the hearing, Mr. Landau testified that venture capital and technology investments have thrived in the years since the Supreme Court’s *eBay* decision and the implementation of the post-grant reviews provided by the America Invents Act. Your testimony painted a different picture. How do you reconcile these conflicting narratives?**

The conflicting narratives are easily reconciled. First, the appropriate time frames must be kept in mind, as a single year-over-year comparison or a comparison of rates over just a few years is not a sufficient enough time period to make a valid empirical claim about overall trends in VC funding. Second, gross levels of venture capital (VC) funding remain high but the specific sectors of the economy in which these investments are being made has shifted dramatically over the past thirteen years. According to an empirical study published by the Alliance of U.S. Inventors and Startups for Jobs (USIJ),¹ VC investments have significantly dropped between 2004 and 2017 in the fields of pharmaceuticals, semiconductors, medical supplies, surgical devices, and other key sectors that have driven the U.S. innovation economy for the past hundred years. VC funding in these sectors dropped from 20.95% in 2004 to 3.22% in 2017 of total VC funding. Total VC funding has not dropped during this same time period, however, but merely shifted to other sectors, such as social network platforms, apps, hotels and leisure, and consumer apparel, among other commercial fields. VC funding in these other sectors of the economy has increased from 11.4% in 2004 to 36.3% in 2017.

Notably, it is the sectors of the U.S. innovation economy that rely on patents to secure the fruits of billions of dollars in long-time-horizon R&D expenditures—medical devices, drugs, and foundational technologies in computers—that have experienced a radical drop in relative VC funding between 2004 and 2017. The sectors of the economy based on business models that do not rely on patents, such as apps, social media, and hotels, have experienced growth in their relative VC funding rates. This shift in relative VC funding rates is consistent with the elimination of reliable and effective patent rights over this same period. Investors have shifted to comparatively less risky investments that provide for a better rate of return. The result is more innovation in hotels and social media and less innovation in new drugs.

¹ See U.S. Startup Company Formation and Venture Capital Funding Trends 2004 to 2017 (July 9, 2018), <https://www.usij.org/research/2018/7/9/us-startup-company-formation-and-venture-capital-funding-trends-2004-to-2017>.

The USIJ data is consistent with many economic studies that show an overwhelmingly positive correlation between reliable and effective patent rights and economic growth.² Professor Stephen Haber reviewed this economic and historical evidence and finds the weight of evidence supporting a finding of a “causal relationship between strong patents and innovation.”³ Here, a “strong patent” means a property right enforceable in courts of law and freely alienable to third parties such that it facilitates specialization and the division of labor in innovation markets. Professor Haber concludes that “there are no wealthy countries with weak patent rights, and there are no poor countries with strong patent rights.”⁴ This establishes the same presumptive burden on behalf of patents that is established by the same overwhelmingly positive correlations between other private property rights and economic growth—those who claim otherwise bear the burden of proof.⁵

Other economists, such as Professor Zorina Khan, have further identified that reliable and effective patent rights were a key factor in promoting thriving innovation markets in the United States in the nineteenth century.⁶ She and other economists have identified features of these robust nineteenth-century innovation markets—such as an increase in “venture capital” investment in patent owners, the rise of a secondary market in the sale of patents as assets, and the embrace of specialization via licensing business models—as indicators of value-maximizing economic activity made possible by reliable and effective patent rights.⁷

These economic and legal insights are just as true today: a twenty-first-century startup with a patent more than doubles its chances of securing VC financing when compared to a startup without a patent.⁸ This confirms the findings in the USIJ study that have shown a relative drop in VC funding for patent-intensive sectors of the innovation economy: as patents have

² See Stephen Haber, *Patents and the Wealth of Nations*, 23 GEO. MASON L. REV. 811 (2016) (surveying these numerous studies and adding additional new data).

³ *Id.* at 815.

⁴ *Id.*

⁵ See *id.* at 834 (“Evidence and reason therefore suggest that the burden of proof falls on those who claim that patents frustrate innovation.”); Letter to Assistant Attorney General Makan Delrahim, Feb. 13, 2018, at <https://cpip.gmu.edu/wpcontent/uploads/sites/31/2018/02/Letter-to-DOJ-Supporting-Evidence-Based-Approach-to-Antitrust-Enforcement-of-IP.pdf> (“It bears emphasizing that no empirical study has demonstrated that a patent owner’s request for injunctive relief after a finding of a defendant’s infringement of its property rights has ever resulted either in consumer harm or in slowing down the pace of technological innovation.”).

⁶ See B. ZORINA KHAN, *THE DEMOCRATIZATION OF INVENTION: PATENTS AND COPYRIGHTS IN AMERICAN ECONOMIC DEVELOPMENT, 1790-1920*, at 9-10 (2005) (“[P]atents and . . . intellectual property rights facilitated market exchange, a process that assigned value, helped to mobilize capital, and improved the allocation of resources. . . . Extensive markets in patent rights allowed inventors to extract returns from their activities through licensing and assigning or selling their rights.”).

⁷ See, e.g., Naomi R. Lamoreaux, et al., *Patent Alchemy: The Market for Technology in US History*, 87 *Bus. Hist. Rev.* 3 (2013).

⁸ See Joan Farre-Mensa, et al., *What Is a Patent Worth? Evidence from the U.S. Patent “Lottery”* 26–27 (USPTO Econ. Working Paper No. 2015-5, 2018), <https://ssrn.com/abstract=2704028>.

weakened, they have lost the legal characteristics that make them function as commercial assets in driving the U.S. economy, undermining their economic function as sources of collateral for the startups and small businesses that are a primary source of economic growth in the U.S.⁹

2. Some have characterized the STRONGER Patents Act as providing for “automatic” injunctions, rather than rebuttable presumptions on certain factors influencing injunction decisions. Do you agree? Would courts still be free to consider, for example, the public interest and competing hardships when deciding whether to grant equitable relief?

It is not true that the STRONGER Patents Act provides for an automatic injunction; rather, the STRONGER Patents Act returns back to the longstanding, historical legal test for issuing a remedy for ongoing infringement of a valid patent—a presumptive injunction. Since the United States was the first country to define patents as property rights,¹⁰ courts in the nineteenth century applied to patents the same legal remedies they applied to all property rights.¹¹ In sum, courts applied a *presumptive remedy* of an injunction.

This meant that, following a trial proving both validity of the patent and ongoing infringement of this valid property right, an injunction issued presumptively.¹² As a presumptive remedy, an injunction was not automatically guaranteed for a patent owner—nor for any property owner—as it could be rebutted by a defendant.¹³ A defendant could defeat an injunction by proving that the patent was invalid or that the defendant did not infringe. Once a defendant was found liable for ongoing infringement of a valid patent, it could still defeat an injunction by proving classic counter-claims in equity for why an injunction should not issue, such as unreasonable delay that prejudiced the defendant (called

⁹ See Adam Mossoff, *Institutional Design Choice in Patent Law: Private Property Rights or Regulatory Entitlements*, 92 SO. CAL. L. REV. 921 (forthcoming 2019).

¹⁰ See Mossoff, *Institutional Design in Patent Law*, *supra* note **Error! Bookmark not defined.** (identifying licensing and injunctions as two key legal indicators of the unique U.S. approach to securing patents as private property rights).

¹¹ See, e.g., *Cook v. Ernest*, 6 F. Cas. 385, 391 (C.C.D. La. 1872) (“If the rights of property so invaded were rights to land or other tangible estate, no court would hesitate for a moment to restrain the wrong-doer by injunction. The property in a patent is just as much under the protection of the law as property in land. The owner has the same right to invoke the protection of the courts, and when he has made good his claim to his patent, and shown an infringement of it, it is the duty of the courts to give him the same relief meted out to suitors in other cases.”).

¹² See, e.g., *Conover v. Mers*, 6 F. Cas. 322 (1868) (“[W]here, as here, the patent has been sustained on full hearing, and the infringement is clear . . . the complainant is entitled to have his rights promptly protected by injunction.”).

¹³ See, e.g., *Batchelder v. Moulton*, 2 F. Cas. 307, 310 (C.C.S.D.N.Y. 1873) (“The plaintiff’s title and the validity of his claims are free of doubt, and have been established, and the infringement by the defendants’ machine is clear. An injunction must issue on all the claims.”); *Day v. New England Car Co.*, 7 F. Cas. 248, 248-49 (1854) (“Under the rules of equity pleading . . . The defendants must disprove the invention, or the right of the plaintiff as assignee, or the infringement of the patent Otherwise, the plaintiff will be entitled to an injunction on the proofs.”);

“laches”),¹⁴ classic “public interest” concerns of threats to public health and safety,¹⁵ a cloud on the title, or other longstanding equitable defenses. As a general matter of patent litigation, courts usually found in favor of the patent owners,¹⁶ but not as a matter of automatic right, but simply because they applied to patents the same doctrinal rules governing remedies for other property rights. As a court explained in *Green v. French* in 1870 in the context of issuing a preliminary injunction: “the court has no discretion, but is bound to grant a preliminary injunction where the validity of the complainant’s patent has been established by protracted and expensive litigation, and the proof of infringement is clear.”¹⁷

In sum, the STRONGER Patents Act does not create an automatic injunction. Rather, the bill only abrogates the new four-factor test for issuing injunctions for ongoing infringement of a valid patent that was created 13 years by the U.S. Supreme Court in *eBay v. MercExchange, LLC*, 547 U.S. 388 (2006).

As I stated at the hearing, there is almost 200 years of case law applying the rule that a patent owner receive a presumptive injunction for ongoing infringement of a valid patent. This case law is available to guide courts today in the application of this test. This will ensuring that the patent system continues to function as it did historically in driving economic growth and creating a flourishing society in the U.S.

3. During the hearing, Prof. Cotter suggested that injunctive relief is not necessary in most cases of patent infringement, and that monetary damages should instead suffice for patent owners who are not direct competitors to those found to engage in ongoing infringement of valid patent claims. Please explain why the possibility of securing an injunction promotes innovation and efficient dispute resolution, particularly in the context of research companies, startups, universities, and independent inventors.

As an academic, I cannot speak about this topic as well as a patent owner or a representative from a company in the innovation industries about how they are not made whole by monetary damages when someone infringes their patent, especially by the deliberate piracy now called “efficient infringement.” As a legal scholar, though, I can attest that there are widespread misunderstandings about the function of injunctions in the innovation economy. Before addressing specific question about how injunctions are necessary for research companies, startups, universities, and independent inventors, I will first review the nature and

¹⁴ See, e.g., *Goodyear v. Honsinger*, 10 F. Cas. 692, 695 (1867) (considering laches argument by defendant but ultimately issues preliminary injunction for plaintiff patent owner); *Cooper v. Mattheys*, 6 F. Cas. 482 (1842) (denying an injunction given evidence of laches by the plaintiff patent owner);

¹⁵ See, e.g., *Bliss v. City of Brooklyn*, 3 F. Cas. 706 (1871) (denying injunction for infringement of a patent on fire hoses used by city fire department on public interest grounds of threat to public health and safety in the city).

¹⁶ See *eBay*, 547 U.S. at 395 (Roberts, C.J., concurring).

¹⁷ *Green v. French*, 10 F. Cas. 1107, 1109 (1870).

function of injunctions, as this is a necessary context for detailing how injunctions function for specific types of innovators.

Although some companies internalize all aspects of research and development, manufacturing, and commercializing products and services in their business models, such as firms in the pharmaceutical industry, many companies do not do this. Most patent owners engage in innovative commercial transactions and economic arrangements to efficiently produce innovative products and services for sale in the marketplace to consumers, such as disbursed supply chains among different companies, franchise business models formed around licenses of a portfolio of intellectual property rights, portfolio licensing of patents, and patent pools, among others. The ability of inventors, businesspersons, and ultimately consumers, to reap the benefits of these innovation markets is dependent on their ability to transact in the marketplace.

These market transactions comprise contracts, and the resulting setting of fair market value in products and services via contracts is dependent on the exercise of exclusive control rights in property. This is why property, including intellectual property, is a platform for commercial activities in which market participants benefit from specialization and division of labor in maximizing value creation, which leads to economic growth and a flourishing society. This key economic principle was first formulated by Adam Smith in *The Wealth of Nations* in 1776, and it is widely accepted as a foundational principle in economics today.¹⁸

Even more important, these contracts are based on specialization and division of labor, which is what makes possible value creation by undercapitalized innovators, such as independent inventors, startups, universities, and research companies. They do not have the labor and capital necessary to establish their own manufacturing facilities and facilities in a commercial value chain, but they can license their patent rights and contract with other companies and entities who do have these capabilities to achieve efficiencies in the marketplace in producing and distributing new products and services to consumers. As award-winning economist, Zorina Khan, has recognized about the unique American approach to securing patents as property rights in the nineteenth century:

patents and . . . intellectual property rights facilitated market exchange, a process that assigned value, helped to mobilize capital, and improved the allocation of resources Extensive markets in patent rights allowed inventors to extract

¹⁸ See, e.g., Stephen Haber, *Patents and the Wealth of Nations*, 23 GEO. MASON L. REV. 811, 811 (2016) (“There is abundant evidence from economics and history that the world’s wealthy countries grew rich because they had well-developed systems of private property. Clearly defined and impartially enforced property rights were crucial to economic development”); HERNANDO DE SOTO, *THE MYSTERY OF CAPITAL: WHY CAPITALISM TRIUMPHS IN THE WEST AND FAILS EVERYWHERE ELSE* 83 (2000) (“[P]eople who could not operate within the law also could not hold property efficiently or enforce contracts through the courts Being unable to raise money for investment, they could not achieve economies of scale or protect their innovations through royalties and patents.”); Harold Demsetz, *Toward a Theory of Property Rights*, 57 *American Econ. Rev.* 347 (1967) (noting that “an owner of a private right to use land acts as a broker” in facilitating efficient uses of the land).

returns from their activities through licensing and assigning or selling their rights.¹⁹

This key economic function of property rights only works when property owners have reliable and effective control over their property. If anyone can violate a property right by trespassing and legally compelling the owner into a compulsory license set by a judge or other government official, then individual property owners can no longer determine how best to use their property in the market place. This is the legal and economic function of injunctions, because ongoing violations of property rights harm property owners (and ultimately society) in ways that are not compensable merely by paying the literal cost of the trespass, such as the \$1 in depressing the grass of a homeowner whose property is violated by someone who decides to take a shortcut to the bus stop.

In securing these control rights over property, courts protect fully not only the commercial decisions that make possible private ordering in business models and market exchanges, they also secure the liberty interest in how people may choose to live their lives,²⁰ to secure their privacy rights,²¹ and to create value in the marketplace through its own business model and developing corporate goodwill with consumers in developing a reputation as an innovative company.²² As the Wisconsin Supreme Court has recognized in a famous trespass case, in these situations, “the actual harm is not in the damage done to the land . . . but in the loss of the individual’s right to exclude others from his or her property.”²³

This economic principle—injunctions facilitate market transactions by securing a person’s right to decide how it will use its assets and sell its products and services in the marketplace—is recognized by courts in non-intellectual property cases. In *Continental Airlines v. Intra Brokers*,²⁴ for example, the court granted Continental’s request for equitable relief enjoining Intra Broker’s resale of discount coupons that Continental expressly prohibited from being sold or used by third parties in a secondary market.²⁵ Intra Brokers argued that, even if it was liable for its resale of the coupons, the coupons were easily

¹⁹ B. ZORINA KHAN, THE DEMOCRATIZATION OF INVENTION: PATENTS AND COPYRIGHTS IN AMERICAN ECONOMIC DEVELOPMENT, 1790–1920, at 9-10 (2005).

²⁰ See Adam Mossoff & Eric Claeys, *Patent Injunctions, Economics, and Rights*, 49 J. Legal Stud. ___ (forthcoming 2020), <https://ssrn.com/abstract=3197275> (identifying how natural rights theory justifies injunctive remedies for all property owners, including patent owners, on an ethical theory that this promotes human flourishing).

²¹ See *Jacque v. Steenberg Homes, Inc.*, 563 N.W.2d 154, 159 (Wis. 1997).

²² See *Douglas Dynamics v. Buyers Prods. Co.*, 717 F.3d 1336 (Fed. Cir. 2013) (identifying many different types of losses resulting from patent infringement that are often difficult to quantify, such as the patent owner’s lost sales, erosion in its reputation, and loss of its brand distinction).

²³ *Jacque*, 563 N.W.2d at 159.

²⁴ *Continental Airlines, Inc. v. Intra Brokers, Inc.*, 24 F.3d 1099 (9th Cir. 1994).

²⁵ *Id.* at 1105.

measured by their monetary face value, which established that Continental failed to prove it suffered an irreparable injury justifying an injunction, as opposed to payment of damages. The court soundly rejected this argument, stating that “Continental was entitled to control whether its coupons were transferred.” The court held that Continental had proven irreparable injury because the “certain harm to Continental was to its power, not its purse. [Regardless w]hether Continental is right or wrong about the effect of coupon brokering on its profits . . . it is entitled to its own decisions about whether to give out discount coupons, and whether to make them transferrable or nontransferable. *Neither Intra nor the courts are entitled to substitute their business judgment for Continental’s.*”²⁶

This is an especially salient concern for undercapitalized property owners, such as the research companies, universities, startups, and individual inventors creating next-stage innovations. Given their lack of extensive financial reservoirs of funds

- 4. PTAB trials were created to provide an efficient alternative to district court litigation, but PTAB challenges are adjudicated according to different standards of proof and – until recently – different claim construction standards than those applied in district courts. Furthermore, the lack of a standing requirement at the PTAB has enabled unforeseen abuses by, for example, hedge funds seeking to manipulate stock prices or petitioners seeking to harass competitors. To what extent would the STRONGER Patents Act’s harmonization of these proceedings restore confidence in the U.S. patent system?**

The reforms achieved by the STRONGER Patents Act are vitally important for restoring confidence in the patent system, because they bring back to the patent system and its legal institutions the basic tenets of due process and the rule of law.

For example, Kyle Bass, head of the Hayman Capital Management LP hedgefund, filed more than 30 petitions at the PTAB seeking to invalidate patents held by pharmaceutical companies.²⁷ Bass, on behalf of his partners and investors, short sells the stocks of the company he is targeting at the PTAB.²⁸ By short selling the stock, Bass makes money if the company’s stock price decreases.

Given the very high “kill rates” of patents at the PTAB—patent cancellation rates have ranged between approximately 66% and almost 100% depending on which review program a petition is filed in—the mere filing of a petition with the PTAB can cause a significant drop

²⁶ *Id.* at 1105 (emphasis added).

²⁷ See Joseph Walker & Rob Copeland, *New Hedge Fund Strategy: Dispute the Patent, Short the Stock*, WALL ST. J. (Apr. 7, 2015), <http://on.wsj.com/2usPWqq>.

²⁸ *Id.*

in a company's share price.²⁹ After Bass filed two PTAB petitions against Acorda Therapeutics and Shire, respectively, each of the companies' share prices dropped.³⁰ Acorda Therapeutics's share price fell 9.7% and 4.8% after Bass filed two PTAB petitions in February 2015, and Shire's share price fell 2.7% after Bass filed a petition in April 2015.³¹ For an institutional investor in charge of investing hundreds of millions of dollars, even small price fluctuations can produce millions, if not hundreds of millions, in profits.³² For the affected companies, however, it means significant losses: Acorda lost approximately \$4 million and \$2 million respectively, and Shire lost a stunning \$14.9 million. These types of losses have real consequences for companies and ultimately for the public; in the pharmaceutical sector, it means lost jobs and reduced spending on the research and development necessary to create new drugs.

Unfortunately, the PTAB has ruled that petitions filed for purposes other than concerns about patent validity, such as Bass' business model of short selling pharmaceutical stocks, is legitimate. Celgene Corporation, one of the victims of Bass's short-sale strategy at the PTAB, filed a motion with the PTAB requesting that it prohibit non-innovation-motivated petitions by Bass and others. In response, the PTAB ruled in favor of Bass, concluding that "an economic motive for challenging a patent claim does not itself raise abuse of process issues. We take no position on the merits of short-selling as an investment strategy other than it is legal, and regulated."³³

This explicit harassment of companies working in the innovation industries—the manipulation of a company's stock price—is endorsed by the PTAB, which maintains that the motives of a petitioner are immaterial to its decisions. When patent owners send demand letters that misrepresent their motives in asserting that someone is infringing a patent, they are rightly sanctioned by the Federal Trade Commission.³⁴ In court cases, judges regularly sanction patent owners for improper motives and bad behavior in suing companies for patent

²⁹ See J. Gregory Sidak & Jeremy O. Skog, *Attack of the Shorting Bass: Does the Inter Partes Review Process Enable Petitioners to Earn Abnormal Returns?*, 63 UCLA L. REV. DISC. 120, 135–39 (2015) (conducting an analysis of the performance of a company targeted by Bass in comparison with the S&P 500); see also Stephen Foley & David Crow, *Kyle Bass Returns Funds Amid Retreat on Pharma Shorting Campaign*, FIN. TIMES, Feb. 23, 2016, <http://on.ft.com/2quo2pb>.

³⁰ Sidak & Skog, *supra* note 92 at 138.

³¹ *Id.* at 131.

³² Kyle Bass reportedly raised \$700 million from investors seeking to profit from this short-sale PTAB petition strategy. See Foley & Crow, *supra* note 92.

³³ Gene Quinn, *Kyle Bass IPR challenge moves forward, what does it mean for patent reform?*, IPWATCHDOG, Oct. 12, 2015, <http://bit.ly/1jltJ4U> (quoting Coalition for Affordable Drugs VI, LLC v. Celgene Corporation, Nos. IPR2015-01092, -01096, -01102, -01103, -01169 Paper No. 18 (filed Sept. 25, 2015)).

³⁴ See Press Release, Federal Trade Commission, *FTC Settlement Bars Patent Assertion Entity From Using Deceptive Tactics* (Nov. 6, 2014), <http://bit.ly/2tHm22m>.

infringement.³⁵ The STRONGER Patents Act correctly addresses the concern about misleading demand letters for the same reason that it correctly addresses the concerns raised by abusive petitions at the PTAB. The PTAB permits the abuse of its legal process by individuals or companies who merely seek to profit by depressing a patent owner's stock prices, and the PTAB is not going to stop it. The STRONGER Patents Act brings back respect for basic due process in the patent system. This strengthens both patents and the petitions filed at the PTAB that are driven by real innovation concerns, because all petitions are besmirched by a fundamentally flawed process infected with abuse and procedural "shenanigans," as the courts have noted.

The differing legal standards utilized by courts and the PTAB in reviewing patents, which is leading to conflicting legal decisions between the PTAB and courts in reviewing the same patent, has also created concerns about the respect for fundamental tenets of the rule of law. In essence, patent owners are now subject to the administrative and civil version of double jeopardy. A defendant accused of patent infringement can now challenge the same patent with the same arguments and the same evidence in two separate legal venues, and while this argument may fail in an Article III court, the lower evidentiary and legal standards at the PTAB can (and do) lead to the exact opposite result.

The Federal Circuit has ruled that the PTAB can invalidate a patent that was previously upheld by a federal district court and by the Federal Circuit itself. Citing the lower burden of proof that the PTAB accepts, the court simply conceded that inconsistent results are a fait accompli under the new this new state of affairs.³⁶ The Supreme Court also recognized in *Cuozzo* that "the possibility of inconsistent results is inherent" in the PTAB's design.³⁷

Despite the endorsement of this state of affairs by the Federal Circuit and the Supreme Court, permitting fundamental conflicts like this between the legal institutions governing patents sows uncertainty and eviscerates patents as reliable and effective property rights. The STRONGER Patents Act expressly addresses these policy concerns by requiring the PTAB to follow the same evidentiary standard in Article III courts and providing priority to Article III court decisions over PTAB decisions. This will restore confidence in the patent system among innovators, venture capitalists, and businesspersons working in the innovation economy, who will no longer find a cloud on the title in patents given contradictory legal judgments, lack of due process in the treatment of patents by government officials, and other arbitrary and capricious legal processes and decisions.

³⁵ See, e.g., Kevin Penton, *Comcast, Other Cable Cos. Get \$51M Fees In Rembrandt MDL*, LAW360, Mar. 3, 2017, <http://bit.ly/2u2MVfu> (judge sanctions patent owner for having "violated ethical rules of conduct by paying its fact witnesses . . . while also engaging in 'widespread' document spoliation over a number of years"); Kelly Knaub, *Tech Co. Scores \$1.3M Attorneys' Fee Win In Patent Case*, LAW360, Oct. 4, 2016, <http://bit.ly/2usVX6D> (judge sanctions patent owner for having "played semantic games regarding what its machines did").

³⁶ *Novartis AG v. Noven Pharm. Inc.*, 853 F.3d 1289 (Fed. Cir. 2017).

³⁷ *Cuozzo Speed*, 136 S. Ct. at 2146.

**Questions for the Record for Prof. Adam Mossoff
From Senator Mazie Hirono**

1. In *eBay*, Chief Justice John Roberts drafted a concurring opinion noting “the difficulty of protecting a right to exclude through monetary remedies that allow an infringer to use an invention against the patentee’s wishes.” While he ultimately supported the Court’s decision to do away with the presumption of injunctive relief, he advised courts to follow the “long tradition” of issuing injunctions in patent cases rather than “writing on an entirely clean slate.”

Data suggests that courts have not followed the Chief Justice’s suggestion. A 2017 study issued by the Hoover Institution Working Group on Intellectual Property, Innovation, and Prosperity found that “the *eBay* decision has reduced, rather dramatically, both the level at which injunctive relief is sought in patent cases and the rate at which they are granted.”

- a. **Do you agree with Chief Justice Roberts’s statement that monetary damages do not necessarily adequately protect a patent owner’s right to exclude? Why or why not?**

As an academic, I cannot speak about this topic as well as a patent owner or a representative from a company in the innovation industries about how they are not made whole by monetary damages when someone infringes their patent, especially by the deliberate piracy now called “efficient infringement.” As a legal scholar, though, I can attest that there are widespread misunderstandings about the function of injunctions in the innovation economy. Although some companies internalize all aspects of research and development, manufacturing, and commercializing products and services in their business models, such as in the pharmaceutical industry, many companies do not do this. Most companies engage in innovative commercial transactions and economic arrangements to efficiently produce innovative products and services for sale in the marketplace to consumers, such as creating disbursed supply chains among different companies, franchise business models formed around licenses of a portfolio of intellectual property rights, portfolio licensing of patents, and patent pools, among others. The ability of inventors, businesspersons, and ultimately consumers to reap the benefits of these innovation markets is dependent on the ability of patent owners and businesspersons to transact in the marketplace.

These market transactions comprise contracts, and the resulting setting of fair market value in products and services via contracts is dependent on the exercise of exclusive control rights in property. This is why all property rights, including intellectual property rights, are a platform for commercial activities in which market participants benefit from specialization and division of labor in maximizing value creation, which leads to economic growth and a flourishing society.¹ This key economic principle was first

¹ See, e.g., B. ZORINA KHAN, THE DEMOCRATIZATION OF INVENTION: PATENTS AND COPYRIGHTS IN AMERICAN ECONOMIC DEVELOPMENT, 1790–1920, at 9-10 (2005) (“[P]atents and . . . intellectual property rights facilitated market exchange, a process that assigned value, helped to mobilize capital, and improved the allocation of resources. . . . Extensive markets in patent rights allowed inventors to extract returns from their activities through licensing and assigning or selling their rights.”).

formulated by Adam Smith in *The Wealth of Nations* in 1776, and it is widely accepted as a foundational principle in economics today.²

This economic principle—injunctions facilitate market transactions by securing a property owner’s right to decide how it will use its assets and sell its products and services in the marketplace—is well recognized by courts in non-intellectual property cases. In *Continental Airlines v. Intra Brokers*,³ for example, the court granted Continental’s request for equitable relief enjoining Intra Broker’s resale of discount coupons that Continental expressly prohibited from being sold or used by third parties in a secondary market.⁴ Intra Brokers argued that, even if it was liable for its resale of the coupons, the coupons were easily measured by their monetary face value, which it maintained established that Continental failed to prove that it suffered an irreparable injury justifying an injunction, as opposed to payment of damages. The court soundly rejected this argument, stating that “Continental was entitled to control whether its coupons were transferred.” The court held that Continental had proven irreparable injury because the “certain harm to Continental was to its power, not its purse. [Regardless w]hether Continental is right or wrong about the effect of coupon brokering on its profits . . . it is entitled to its own decisions about whether to give out discount coupons, and whether to make them transferrable or nontransferable. *Neither Intra nor the courts are entitled to substitute their business judgment for Continental’s.*”⁵

Similarly, in a famous case from 1911, the West Virginia Supreme Court of Appeals held that a trespasser who cut down the trees of the landowner could not simply elect to pay the landowner damages for the fair market value of the trees.⁶ Although it was possible to identify and measure the monetary value of the trees in awarding damages, this *economic* fact did not make the *legal* injury to the landowner complete as a matter of law. The court recognized that the key legal and policy concern for “all forms of property either real or personal” is that courts “guarantee to the owner of property the right, not only to possession thereof and dominion over it, but also its immunity from injury”⁷ The court also recognized the key economic insight that real estate is unique “for no two pieces of land are alike in all respects,” and thus courts cannot assume as a default rule

² See, e.g., Stephen Haber, *Patents and the Wealth of Nations*, 23 GEO. MASON L. REV. 811, 811 (2016) (“There is abundant evidence from economics and history that the world’s wealthy countries grew rich because they had well-developed systems of private property. Clearly defined and impartially enforced property rights were crucial to economic development”); HERNANDO DE SOTO, *THE MYSTERY OF CAPITAL: WHY CAPITALISM TRIUMPHS IN THE WEST AND FAILS EVERYWHERE ELSE* 83 (2000) (“[P]eople who could not operate within the law also could not hold property efficiently or enforce contracts through the courts Being unable to raise money for investment, they could not achieve economies of scale or protect their innovations through royalties and patents.”); Harold Demsetz, *Toward a Theory of Property Rights*, 57 *American Econ. Rev.* 347 (1967) (noting that “an owner of a private right to use land acts as a broker” in facilitating efficient uses of the land).

³ *Continental Airlines, Inc. v. Intra Brokers, Inc.*, 24 F.3d 1099 (9th Cir. 1994).

⁴ *Id.* at 1105.

⁵ *Id.* at 1105 (emphasis added).

⁶ See *Pardee v. Camden Lumber Co.*, 73 S.E. 82 (W. Va. 1911).

⁷ *Id.* at 84.

that fair market value (money) is entirely fungible with the value derived from property by its owner.⁸

In securing these control rights over property, courts protect fully not only the commercial decisions that make possible private ordering in business models and market exchanges, they also secure the liberty interest in how people may choose to live their lives,⁹ to secure their privacy rights,¹⁰ and to create value in the marketplace through their own chosen business models.¹¹ As the Wisconsin Supreme Court recognized in another famous willful trespass case in 1997 involving minimal actual damages, in these situations, “the actual harm is not in the damage done to the land . . . but in the loss of the individual’s right to exclude others from his or her property.”¹²

Historically, courts applied these same principles in presumptively securing the exclusive control rights in property rights in inventions.¹³ These principles are particularly salient for patented innovations because the patent laws require a valid patent to be unique—novel and nonobvious—just like land. In *Gilbert & Barker Manufacturing Co. v. Bussing*, for example, the court denied the patent owner’s request for a preliminary injunction, but expressly noted that patent owners could not be subjected to compulsory licensing through denials of a final injunction after finding a defendant liable for ongoing infringement of a valid patent.¹⁴ The court stated bluntly: “The complainants cannot be compelled, against their will, to permit the defendant to use their invention.”¹⁵ As Circuit Justice McLean explained in another patent case in 1845: In “an ordinary case of infringement . . . an absolute injunction is the only adequate relief.”¹⁶ In 1908 in *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, the Supreme Court affirmed the right of all patent owners to receive an injunction.¹⁷ In all cases of patent infringement, the *Continental Paper Bag* Court held that “trespasses and continuing wrongs . . . are

⁸ *Id.*

⁹ See Adam Mossoff & Eric Claeys, *Patent Injunctions, Economics, and Rights*, 49 J. Legal Stud. ___ (forthcoming 2020), <https://ssrn.com/abstract=3197275> (identifying how natural rights theory justifies injunctive remedies for all property owners, including patent owners, on an ethical theory that this promotes human flourishing).

¹⁰ See *Jacque v. Steenberg Homes, Inc.*, 563 N.W.2d 154, 159 (Wis. 1997).

¹¹ See *Douglas Dynamics v. Buyers Prods. Co.*, 717 F.3d 1336 (Fed. Cir. 2013) (identifying many different types of losses resulting from patent infringement that are often difficult to quantify, such as the patent owner’s lost sales, erosion in its reputation, and loss of its brand distinction).

¹² *Jacque*, 563 N.W.2d at 159.

¹³ See *Cook v. Ernest*, 6 F. Cas. 385, 391 (C.C.D. La. 1872) (“If the rights of property so invaded were rights to land or other tangible estate, no court would hesitate for a moment to restrain the wrong-doer by injunction. The property in a patent is just as much under the protection of the law as property in land. The owner has the same right to invoke the protection of the courts, and when he has made good his claim to his patent, and shown an infringement of it, it is the duty of the courts to give him the same relief meted out to suitors in other cases.”).

¹⁴ *Gilbert & Barker Mfg. Co. v. Bussing*, 10 F. Cas. 348 (1875)

¹⁵ *Id.* at 349.

¹⁶ *Brooks v. Stolley*, 4 F. Cas. 302 (C.C.D. Ohio 1845) (No. 1,962) (McLean, Circuit Justice).

¹⁸ *Id.* at 430.

well-respected grounds of equity jurisdiction, especially in patent cases, and a citation of cases is unnecessary.”¹⁸

The Federal Circuit has recognized that “exclusivity is closely related to the fundamental nature of patents as property rights. It is an intangible asset that is part of the company’s reputation.”¹⁹ Courts have also recognized that patent infringement causes innumerable harms that are very difficult to identify, quantify, and measure in a way that affords complete relief with only monetary damages. These harms include “price erosion, loss of goodwill, damage to reputation, and loss of business opportunities” in the marketplace, which the Federal Circuit rightly recognized as “all valid grounds for finding irreparable harm.”²⁰ These concerns reflect the same loss of control rights over the use of real property that underscores longstanding legal doctrine that, even if monetary damages can be measured and awarded by a court, this does not put the plaintiff in the position it would have been but for the wrong of the violation of its rights. The ability to secure one personal values and commercial decisions in the use of one’s own property is an essential foundation of both a liberal political order and a free market. This principle applies to all forms of property, whether real estate or patents, as courts have long recognized.

b. Please describe the difficulty patent owners face in trying to get an injunction.

As an academic, I cannot attest to these issues specifically, but I can state that, contrary to the claim in *eBay* that the Supreme Court was reestablishing a historical legal test, there was in fact no historical four-factor test.²¹ Remedies scholars have repeatedly observed and I have confirmed in my own independent empirical study of nineteenth-century patent cases that U.S. courts never applied a four-factor test for issuing injunctions on a finding of liability by a defendant for ongoing violations of patent rights.²² Thus, *eBay* created a *new* legal test that lacked controlling precedent to guide court decisions after 2006, and this contributed to a change in the rate patent owners have received the longstanding presumptive remedy of an injunction for ongoing infringement of their valid property rights.

Within a few years after *eBay*, courts conflated Justice Anthony Kennedy’s concurrence with the majority decision in *eBay*, citing not the majority opinion, but Justice Kennedy’s

¹⁸ *Id.* at 430.

¹⁹ *Douglas Dynamics*, 717 F.3d at 1345.

²⁰ *Aria Diagnostics, Inc. v. Sequenom, Inc.*, 726 F.3d 1296, 1304 (Fed. Cir. 2013) (quoting *Celsis in Vitro, Inc. v. CellzDirect, Inc.*, 664 F.3d 922, 930 (Fed. Cir. 2012)).

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²² See Doug Rendleman, *The Trial Judge’s Equitable Discretion Following eBay v. MercExchange*, 27 REV. LITIG. 63, 76 n.71 (2007) (“Remedies specialists had never heard of the four-point test.”). My empirical study is not yet published or available to the public. It appears the *eBay* Court was confused between the test for permanent injunctions and the test for a preliminary injunction, as there is no “historical” four-factor test for issuance of permanent injunctions, but there is a modern four-factor test for preliminary injunctions. See DOUG LAYCOCK, MODERN AMERICAN REMEDIES: CASES AND MATERIALS 444 (4th ed. 2010) (observing that the four-factor test for preliminary injunctions was what “the Court tried to transfer to permanent injunctions in *eBay*”).

concurrence.²³ This is significant because Justice Kennedy argued in *eBay* that a new business model exists of “obtaining licensing fees” by patent licensing companies, and patent licensors should not be permitted to threaten manufacturers with an injunction if they do not take a license.²⁴ He decried that injunctions, or at least the threat of an injunction, permitted licensors to “charge exorbitant fees.”²⁵

Justice Kennedy was wrong that patent licensing is a new business model, as economists and historians have recognized,²⁶ but his concurrence in *eBay* fed a growing moral panic in D.C. and in the courts in the past decade about the role of patent licensing specifically and patents generally in the U.S. innovation economy.²⁷ This was represented by the “patent troll” narrative and the use of this epithet to attack any patent owner who licenses its patent rights instead of manufacturing products or services, sweeping within the taint of this pejorative label any individual inventors, startups, universities, and major companies that succeeded with licensing as a business model.²⁸ In fact, patent licensing has long been a central feature in the vibrant and growing U.S. innovation economy since the early nineteenth century.²⁹ But Justice Kennedy’s mistaken concerns in his *eBay* concurrence came to dominate patent policy, and thus courts began to worry about “patent holdup” via injunctions.³⁰ The result has been a substantial reduction in the ability of patent owners in receiving injunctions for ongoing infringement of their valid patents, as confirmed by at least one empirical study.³¹

2. The America Invents Act introduced inter partes reviews, which allow parties to challenge issued patents before the Patent and Trademark Office. These proceedings were billed as a cheaper, faster alternative to district court litigation.

²³ See Ryan T. Holte, *The Misinterpretation of eBay v. MercExchange and Why: An Analysis of the Case History, Precedent, and Parties*, 18 CHAP. L. REV. 677, 721–22 (2015).

²⁴ *eBay*, 547 U.S. at 396–97 (Kennedy, J., concurring).

²⁵ *Id.*

²⁶ See, e.g., Adam Mossoff, *Patent Licensing and Secondary Markets in the Nineteenth Century*, 22 GEO. MASON L. REV. 959 (2015); B. Zorina Khan, *Trolls and Other Patent Inventions: Economic History and the Patent Controversy in the Twenty-First Century*, 21 GEO. MASON L. REV. 825 (2014); Naomi R. Lamoreaux, et al., *Patent Alchemy: The Market for Technology in US History*, 87 BUS. HIST. REV. 3 (2013).

²⁷ See Adam Mossoff, *Weighing the Patent System: It Is Time to Confront the Bias Against Patent Owners in Patent “Reform” Legislation*, WASH. TIMES (Mar. 24, 2016), <https://www.washingtontimes.com/news/2016/mar/24/adam-mossoff-weighing-the-patent-system/>.

²⁸ See Adam Mossoff, *Repetition of Junk Science and Epithets Does Not Make Them True*, IPWatchdog.com (Nov. 19, 2015), <https://www.ipwatchdog.com/2015/11/19/repetition-of-make-them-true/>.

²⁹ See *supra* note 26.

³⁰ See Alexander Galetovic & Stephen Haber, *The Fallacies of Patent Holdup Theory*, 13 J. COMP. L. & ECON. 1 (2017) (describing the “patent holdup” theory and criticizing it both theoretically and empirically).

³¹ See Kirti Gupta & Jay P. Kesan, *Studying the Impact of eBay on Injunctive Relief in Patent Cases* 38 (Univ. of Ill. Coll. of Law, Legal Studies Research Paper No. 17-03, 2016), <https://ssrn.com/abstract=2816701> (“We find that both for preliminary and permanent injunctions, [patent licensing companies] are less likely to obtain an injunction, after controlling for patent characteristics and the length of the case (from filing to termination) throughout the 2000-2012 time period. We also find that the *eBay* ruling reduced the likelihood of all firms [including manufacturers] receiving either preliminary or permanent injunctions.”).

A study published last year in the American Bar Association's intellectual property law magazine, *Landslide*, found that IPRs have not lived up to their promise. While in isolation an IPR is generally faster and cheaper than district court litigation, IPRs frequently run in parallel to validity challenges in district court. As a result, many patent holders are forced to take on the added expense of defending their patents before the PTO while still defending those same patents in the district court. For some small inventors, this additional expense makes it impossible to enforce their rights.

I know the Patent Office has taken certain steps to minimize the amount of duplicative challenges to issued patents, both before the PTAB and between the PTAB and district courts. The STRONGER Patents Act goes further—among other things by strengthening the estoppel provisions associated with IPRs.

Do these provisions go far enough to ensure that patent owners are not forced to defend their patents on multiple fronts?

Unfortunately, the PTAB has permitted repetitive challenges of the same patent—whether within the PTAB or in combination with lawsuits in the court system. One empirical study found a 70% overlap in defendants being sued for patent infringement and petitioners filing at the PTAB.³² Despite the expectation during the debates leading up to the enactment of the AIA that the PTAB would not create a two-track litigation system for patents, this is in fact what has developed since the PTAB began operations in 2012. These duplicative challenges in both the PTAB and in court impose immense significant burdens on patent owners.

This is confirmed by empirical studies. One recent study confirmed this problem by comparing the share of *petitioners* who were previously sued (for patent infringement) with the share of *petitions* with at least one petitioner who had been sued on the patent. For patents related to drugs and medical technology, 48.5% of the petitioners had been previously sued on the patents they challenged, but 70.8% of the petitions had at least one already-sued petitioner.³³ As a practical matter, this means petitioners who are *not* defendants (in court) are joining petitions that have been filed by prior defendants.³⁴ At the very least, there are multiple petitioners challenging the same patent, and many were serial filings of petitions. Multiple challenges have real costs. When a company must spend financial resources to repeatedly defend the same patent again and again in multiple venues, it cannot invest those resources in additional innovation, recruitment of talent, or operational expansion, among other things.

Large companies are now using the PTAB to impose additional costs on small or medium-sized companies when a large company is threatened with or sued for patent infringement by a smaller company. Another example is an ongoing patent infringement dispute between

³² See Saurabh Vishnubhakat, Arti K. Rai, & Jay P. Kesan, *Strategic Decision Making in Dual PTAB and District Court Proceedings* 31 BERKELEY TECH. L. J. 45 (2016) (finding 70% overlap).

³³ See *id.* at 77, 107–108.

³⁴ *Id.*

EagleView and Verisk. EagleView is a classic American success story: founded in 2008 by two brothers who created computer software to produce 3D models from aerial photographs, the company quickly grew into a successful company with hundreds of employees. In 2014, Verisk, a large multinational company with thousands of employees, attempted to acquire EagleView. When negotiations fell through, EagleView claimed that Verisk (though a subsidiary) began infringing its patented technologies. In 2015, EagleView filed a lawsuit against Verisk and its subsidiary for patent infringement, and the defendants responded by filing numerous petitions at the PTAB seeking to invalidate EagleView's patents. The PTAB petitions delayed the litigation, imposing additional costs on EagleView in defending its patents against invalidity challenges at the PTAB and against separate invalidity challenges in pretrial motions filed by the defendants in court. As of early 2019, EagleView still had not gone to trial for the lawsuit it filed in 2015.

The problem of harassment of patent owners in the PTAB by defendants sued for patent infringement is particularly hard-felt by *individual* inventors. One well-known example is Josh Malone and his "Bunch O Balloons" invention: a device that attaches to a water hose and can fill one-hundred, sealed and ready-to-use water balloons within 60 seconds. Malone received a patent for his invention in 2015. With his patent, he ran a successful crowd-funding campaign on Kickstarter to start his business. With his startup funding, he went national, and he ultimately licensed a manufacturing company, ZURU, to make and sell his invention. It was a tremendous success, and with all success stories, copycats immediately began selling knock-off versions, such as the "Balloon Bonanza" made and sold by TeleBrands (the "As Seen on TV" company).³⁵

Malone sued TeleBrands for patent infringement, Telebrands filed multiple PTAB petitions challenging the validity of Malone's patents. Malone received a preliminary injunction and Telebrands appealed this decision, and while the appeal was pending, the PTAB granted one of TeleBrands's petitions, held a hearing, and canceled one of Malone's patents.³⁶ Later, the Federal Circuit issued its own opinion and it upheld the district court's injunction against TeleBrands, and it rejected the PTAB's ruling as not binding on it.³⁷ This did not bring an end to the infringement or to the ongoing costs imposed on Malone in defending his patent. In response to the multiple challenges filed by TeleBrands, the PTAB continued to review Malone's other patents on his invention. TeleBrands also used its first win at the PTAB in invalidating one of Malone's patents to relitigate the issuance of the preliminary injunction.

In May 2019, after many years of fights at the PTAB and in court, Malone reached a settlement with Telebrand.³⁸ Two years earlier, though, Malone reported that he had already

³⁵ Lauren Fox, *Plano inventor's \$200M idea sets off 2-year fight with "As Seen on TV" Giant*, DALLAS NEWS (June 20, 2017), <http://bit.ly/2vJdcOd>.

³⁶ See Paul Morinville, *Water Balloons, Weapons of Mass Destruction and the PTAB*, IPWATCHDOG (Jan. 27, 2017), <http://bit.ly/2uv1QPv>.

³⁷ *Tinnus Enterprises, LLC v. TeleBrands Corporation*, 846 F.3d 1190 (Fed. Cir. 2017).

³⁸ See Ruth Simon, *Four-Year Water Balloon Fight Ends With \$31 Million Truce*, WASH. POST (May 20, 2019), <https://www.wsj.com/articles/four-year-water-balloon-fight-ends-with-31-million-truce-11558388873>.

spent \$17 million just to defend his patent rights against infringers like TeleBrands.³⁹ He wrote in 2017 that “the PTAB simply encourages infringers like TeleBrands to double down on the expense of litigation,” and that this kills individual inventors and small innovator companies who do not have the resources to fight for their patent rights. He asked rhetorically: “What can I tell someone who has an invention and is preparing to scrape together \$5,000 to \$10,000 to file a patent application? . . . If a patent’s costs are in excess of \$17 million, and it still is not secure, how can we innovate?”⁴⁰

As a result of multiple PTAB filings challenging an individual inventor’s patents, a classic American success story became a legal nightmare. Malone’s tale is all too typical, as accused infringers and commercial competitors now exploit the PTAB as a way to harass inventors, small businesses, and other innovators. Paul Michel, the former Chief Judge of the Federal Circuit, testified before Congress in 2017 that changes to the patent laws like the PTAB have made patents the “sport of kings,” and that the “impacts on start-ups, research universities, university spin-offs, small and medium sized businesses and nearly all but giant multi-national corporations has been devastating.”⁴¹

As evidenced by the multiple filings of PTAB petitions by larger, well-financed companies sued for patent infringement by smaller companies or individuals, PTAB petitions are being filed solely for the purpose to extract settlements in patent infringement lawsuits, regardless of the merits of the actual PTAB challenge. This strategy works because there are no legal risks for a company filing a petition, but the risks for the patent owner are very high. The petitioner faces no legal consequences whatsoever—if it loses, it only loses the relatively low cost of filing the petition and (potentially) the cost of the hearing before the tribunal itself. In contrast, the risk to the patent owner is enormous: its patents can be invalidated and thereby destroying the property rights it is using in licensing or manufacturing in the marketplace. Given the very high “kill rates” at the PTAB, this risk is very real. As confirmed by one empirical study, the PTAB has become a tool used by defendants in seeking leverage against patent owners who sue them for infringement.⁴² In these cases, defendants are essentially asking for a premium from patent owners in settling lawsuits in exchange for the defendants not to seek to invalidate the patents at the PTAB.

The STRONGER Patents Act implements the appropriate and necessary reform by imposing stricter estoppel requirements that will prohibit this strategic abuse of the PTAB by defendants accused of patent infringement in trying to extract their own nuisance settlements from patent owners.

³⁹ Josh Malone, *\$17 Million: The real and staggering cost to patent in the US in the PTAB age*, IPWATCHDOG, July 16, 2017, <http://bit.ly/2v5oGis>.

⁴⁰ *Id.*

⁴¹ Paul R. Michel, Testimony Before Committee on the Judiciary, U.S. House of Representatives, *The Impact of Bad Patents on American Business* (July 13, 2017), <https://docs.house.gov/meetings/JU/JU03/20170713/106230/HHRG-115-JU03-Wstate-MichaelP-20170713.pdf>.

⁴² See Vishnubhakat, Rai & Kesan, *supra* note 32.

3. The Patent Office undertook a study to determine the extent to which patents face multiple IPR petitions. It found that 15% of patents that have been challenged in an IPR face two or more petitions; 16% of multiple petitions are filed after the PTAB already decided to institute the first IPR; and approximately 5% of multiple petitions face multiple rounds of institution. These statistics suggest that a patent is never safe from further review by the Patent Office, no matter how many times it has been upheld.

I see this as a real problem. Those accused of infringing a patent should not be able to avoid liability by undertaking a war of attrition against what oftentimes is a smaller, less well-funded patent owner.

Do you believe that the problem of multiple petitions is a real one? If so, does the STRONGER Patents Acts fix this problem? Why or why not?

As I noted in my answer to the prior question, the PTAB permits repetitive challenges of the same patent—whether within the PTAB or in combination with lawsuits in the court system. Empirical studies that have been presented to USPTO officials in recent years have found that these “serial petitions” increase the likelihood of a petition being granted and a hearing instituted, even when these follow-on petitions are almost exactly identical to previously denied petitions. Thus, these duplicative challenges are prevalent and include either multiple parties attacking the same patent or multiple challenges brought by the same party. These duplicative challenges impose immense burdens on patent owners and on the PTAB itself.

Duplicative challenges of both types are occurring at the PTAB: (1) multiple parties attacking the same patent and (2) multiple challenges brought by the same party. For inventions in the chemical, electrical, and computers and communication fields, for instance, most of the patents subject to petitions for review at the PTAB are in fact challenged multiple times again and again in filing after filing.⁴³ In extreme cases, patents are subjected to numerous PTAB attacks in these serial petitions.⁴⁴

One example of these duplicative PTAB filings on a single patent occurred when Microsoft filed three separate IPR petitions against U.S. Patent No. 8,144,182 (the '182 Patent), which is owned by Biscotti, a small business in Texas.⁴⁵ As early as 2010, Microsoft had been in commercial and legal discussions with Biscotti regarding use of its products and patented technology. Microsoft and Biscotti were in negotiations from 2011 through 2013. When Microsoft chose not take a license to use Biscotti's patented technology, the small start-up company had no other choice but to sue Microsoft in federal court in November 2013.⁴⁶ Microsoft filed three petitions at the PTAB in April 2014 to invalidate Biscotti's patent.

⁴³ See *id.* at 45, 70, 90.

⁴⁴ See, e.g., Gregory Dolin, *Dubious Patent Reform*, 56 B.C. L. REV. 881, 935-944 (2015) (detailing numerous examples of serial petitions against the same patent and brought by multiple parties).

⁴⁵ See *Microsoft Corp. v. Biscotti Inc.*, Nos. IPR2014-01457, -01458, -01459 (filed Sept. 2014). Microsoft filed three more IPR petitions in April 2015, but these were subsequently terminated.

⁴⁶ *Biscotti Inc. v. Microsoft Corp.*, No. 2:13-cv-01015 (E.D. Tex., filed Nov. 26, 2013).

Despite these efforts, Microsoft lost all three IPR challenges in March 2016.⁴⁷ Although Microsoft is now precluded from making the same invalidity arguments in court, defending the PTAB actions imposed a significant financial and time burden on Biscotti *and* delayed the patent infringement trial for almost two years.⁴⁸ The Microsoft story is just one example of many that illustrates how patent owners are subjected to serial filings at the PTAB (three at the same time in the Microsoft case).

The Microsoft and Biscotti dispute illustrates how serial petitions filed at the PTAB duplicate ongoing federal court litigation. Accused infringers who are already sued for patent infringement in federal court file petitions in the PTAB, with its more lenient legal and evidentiary standards for invalidating patents. In so doing, they delay these court proceedings and impose additional legal and commercial costs on the patent owners, including ongoing costs from infringement.

The STRONGER Patents Act addresses these concerns in both law and policy by prohibiting the practice of serial petitions. Under the leadership of Director Iancu, the PTAB has taken steps to limit, or even prohibit, the practice of serial petitions.⁴⁹ But there are indications that the practice continues.⁵⁰ Even if it is no longer happening, though, Congress should enact the STRONGER Patents Act to prevent a new Director or a new Chief Judge at the PTAB from reinstating this practice in the future.

4. A big driver behind the America Invents Act was a narrative that American businesses were under attack by so-called “patent trolls.” What exactly falls within the definition of “patent troll” seems to have evolved over time. The term is frequently applied to entities that buy supposedly “bad patents” and extort money from small businesses by threatening them with litigation. But it’s also been applied to universities that seek to enforce patents covering the inventions their researchers and big companies that invented the subject matter covered by their patents and sell products that embody those inventions.

We should not be disparaging the universities, companies, and small inventors that are doing the hard work of innovation. We should be encouraging them and incentivizing them to continue this work.

a. Do you believe that the United States has a patent troll problem?

⁴⁷ See John Council, *Texas Company Beats Microsoft at the ‘Death Squad,’* LAW.COM, Mar. 27, 2016, <http://bit.ly/2pEDRvy>.

⁴⁸ The district court litigation is ongoing, and Microsoft has also filed for appellate review of the PTAB decisions.

⁴⁹ See *Valve Corp. v. Electronic Scripting Products, Inc.*, IPR2019-00062, IPR2019-00063, IPR2019-00084 (Apr. 2, 2019) (designated precedential) (prohibiting institution of an IPR after multiple petitions against the same patent have been filed from similarly situated petitioners); *General Plastic Industrial Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357 (Sep. 6, 2017) (designated precedential) (setting forth factors governing the denial of a petition to institute an IPR, including whether multiple petitions have been filed against the patent).

⁵⁰ See *Apple’s Multiple Petitions Against Nartron Patent Underscore PTAB’s Serial IPR Problem*, IPWatchdog.com (Aug. 8, 2019), <https://www.ipwatchdog.com/2019/08/08/apples-multiple-petitions-nartron-patent-underscore-serial-petition-problem/>.

No, I do not. It is undeniable there are some rent-seeking patent owners who strategically exploit mistakenly issued patents and the high costs of the American civil litigation. Such bad actors exist in every legal system, and in fact have always existed—in the nineteenth century, the popular rhetorical epithet for these patent owners was “patent shark.”⁵¹ But whether such bad actors exist in large enough numbers to cause a breakdown in the patent system requiring *systemic* changes to the patent system that weaken or undermine the property rights of *all* patent owners is a question that remains largely unanswered.

Several years ago, I joined with forty economists and law professors in submitting a letter to Congress to express our deep concerns with the many flawed, unreliable, or incomplete studies about the American patent system that have been provided to members of Congress.⁵² This letter explained that much of the information surrounding the policy discussions about “patent trolls” is either inaccurate or does not support the conclusions for which it is cited, and it contained a lengthy bibliography of rigorous empirical studies that were performed according to established scientific and academic standards of research that produced results either contradicting the results of “patent troll” studies or identifying significant methodological or substantive failings in the “patent troll” studies.

Our letter thus explained that the empirical studies relied upon by advocates of new legislative, regulatory, or judicial actions to address “patent trolls” are infected by fundamental mistakes. For example, the oft-repeated claim that patent trolls cost U.S. businesses \$29 billion a year in direct costs has been consistently criticized by economists and other academic researchers as being deeply flawed in both its substantive claims and methodology. Studies cited for the proposition that “patent troll” litigation is harmful to startup firms, that it reduces R&D, and that it reduces venture capital investment are likewise deeply flawed. As I noted, the letter contained an appendix in which we identified a substantial body of research that calls into question many of these claims and provides explanations as to the limitations of the “patent troll” studies.⁵³

The policy concern is that, if Congress relied on these studies and their claims about systemic problems with “patent trolls,” it would unintentionally enact legislation that overcorrects, causing unintended negative consequences for inventors, small businesses, universities, and startups. It is important to remember that inventors and startups rely on reliable and effective patent rights to protect their most valuable assets. Previous legislation, regulatory actions, and court decisions have substantially raised the costs of patent enforcement for inventors, startups, universities and other undercapitalized patent owners, which emboldens large infringers and undermines the startup-based innovation

⁵¹ See Earl W. Hayter, *The Patent System and Agrarian Discontent, 1875-1888*, 34 MISS. VALLEY HIST. REV. 59 (June 1947); Earl W. Hayter, *The Western Farmers and the Drivewell Patent Controversy*, 16 AGRICULTURAL HIST. 16 (Jan. 1942). See also Dan Mitchell, *When Patent Trolls Were Simply Sharks*, FORTUNE (June 7, 2013), <http://tech.fortune.cnn.com/2013/06/07/when-patent-trolls-were-simply-sharks/>.

⁵² See <http://sls.gmu.edu/cpip/wp-content/uploads/sites/31/2015/03/Economists-Law-Profes-Letter-re-Patent-Reform.pdf>.

⁵³ See <http://sls.gmu.edu/cpip/wp-content/uploads/sites/31/2015/03/Economists-Law-Profes-Letter-re-Patent-Reform.pdf>.

economy. If reducing patent litigation comes at the price of reducing inventors' ability to protect their patents, the costs to American innovation will outweigh the benefits.

Those bent on attacking "patent trolls" over the past 10-12 years have engendered an alarmist reaction that has eviscerated the reliable and effective patent rights that have been key to the "gold standard" U.S. patent system in driving its innovation economy. Indeed, award-winning economists have linked strong patent systems and vibrant innovation economies tightly together, and others have noted that it is exactly during periods of massive innovation that litigation rates rise. These are fundamental tenets that Congress and policy-makers should keep in mind when considering whether there is in fact a systemic problem with patent trolls that justifies weakening of all patent rights.

b. What is your definition of a patent troll?

Unfortunately, there is no settled, agreed-upon definition of a "patent troll" that is universally adopted by commentators, lawyers, and policy-makers alike. Some commentators and policy-makers equate a "patent troll" with a "non-practicing entity" (NPE) or "patent assertion entity" (PAE), but all of these terms are applied inconsistently in the policy debates. For example, one of the first widely condemned NPEs in the high-tech industry was NTP, which successfully sued RIM (the maker of the Blackberry) after RIM refused to license NTP's patents on wireless email communication.⁵⁴ At the hearing on September 11, Dan Lang from Cisco explicitly referred to NTP as an example of a NPE that harassed an innovative tech company. Professors Mark Lemley and Carl Shapiro, among many others, have called NTP a "patent troll."⁵⁵ But NTP was a holding company formed by the inventor of the technology, Thomas Campana, Jr., who created this holding company for his patent only after numerous failed attempts by him at commercializing the technology.⁵⁶

Everyone claims that inventors are rightly excluded from the "patent troll" label, but scholars and industry representatives are in fact condemning *inventors* as "patent trolls," as exemplified by the Blackberry litigation. Even more important, Campana's patents were affirmed as *valid* after repeated challenges both in court and under re-examination at the USPTO. Thus, it cannot be said that NTP had a "bad" patent, either.

⁵⁴ See NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282 (Fed. Cir. 2005).

⁵⁵ Lemley & Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 2008-09 (2007) (discussing NTP as an example of how "patent trolls [can] hold up defendants by threatening to enjoin products that are predominantly noninfringing"); Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809, 1809-10 (2007) (observing that the BlackBerry litigation "was brought by a 'patent troll,' which is a derogatory term for firms that use their patents to extract settlements rather than license or manufacture technology"); Bruce Sewell, *Troll Call*, WALL ST. J., Mar. 6, 2006, at A14 (criticizing NTP as a patent troll).

⁵⁶ See Barrie McKenna et al. *Patently Absurd*, GLOBE AND MAIL, Jan. 28, 2006, at B4 (discussing how Campana attempted to manufacture his patented invention but was unsuccessful, and thus NTP was formed in 1992 only after his earlier firm, Telefind, went bankrupt in 1991).

The “patent troll” label thus has many varying, expansive, and over-inclusive definitions that include universities,⁵⁷ startups, companies that both manufacture and license,⁵⁸ and companies that engage in their original research and development and license this patented innovation, and even individual inventors—including classic American inventors like Thomas Edison, Elias Howe (the inventor of the lockstitch in the 1840s), and Charles Goodyear (the inventor of vulcanized rubber in the late 1830s).⁵⁹ In sum, the “patent troll” term has been used largely as an epithet or rhetorical cudgel in the policy debates, and thus I prefer to avoid using it.

If there is a valid use of this term, I would limit it to proven cases of truly *abusive behavior*, such as persons or entities who engage in deceptive or fraudulent acts in threatening or filing frivolous patent infringement lawsuits. One prominent example was MPHJ, which was rightly sanctioned by the Federal Trade Commission in 2014.⁶⁰ But the abusive behavior of a relatively small, narrow sub-class of patent owners does not justify systemic changes to the patent system that upends the legal rules that millions of upstanding patent owners rely upon to protect their property rights. This is especially true when there is no definitive evidence that there is a systemic problem in patent litigation, and, in fact, there is significant evidence to the contrary, as I explained in my answer to the prior question.

c. Would universities, businesses, and small inventors that put in the time and effort to invent fit within your definition?

My definition focuses on abusive behavior and not on the status of the patent owner. Whoever engages in proven abusive behavior, such as the fraudulent tactics of MPHJ, can be labeled as a “patent troll.” But this term should be limited, if it is used at all, to only properly evidenced and proven cases of abusive behavior. Otherwise, the term will become another meaningless rhetorical epithet used by anyone who dislikes being sued by a patent owner, regardless of whether that patent owner is an inventor, a university, a licensing company, or a manufacturer.

⁵⁷ The University of Wisconsin is often labeled as a “patent troll.” See Erin Fuchs, *Tech’s 8 Most Fearsome “Patent Trolls,”* Business Insider (Nov. 25, 2012 2:01PM), <http://www.businessinsider.com/biggest-patent-holding-companies-2012-11?op=1>.

⁵⁸ See Adam Mossoff, *Repetition of Junk Science & Epithets Does Not Make Them True*, IPWatchdog (Nov. 19, 2015), <https://www.ipwatchdog.com/2015/11/19/repetition-of-make-them-true/id=63302/> (identifying definition of NPE/patent troll by James Bessen and Michael Meurer as expansively including inventors, manufacturers, and universities); Adam Mossoff, *The SHIELD Act: When Bad Economic Studies Make Bad Laws* (March 15, 2013), <http://cpip.gmu.edu/2013/03/15/the-shield-act-when-bad-economic-studies-make-bad-laws/> (same point).

⁵⁹ See Adam Mossoff, *Thomas Edison Was a “Patent Troll,”* SLATE (May 19, 2014), <https://slate.com/technology/2014/05/thomas-edison-charles-goodyear-and-elias-howe-jr-were-patent-trolls.html>.

⁶⁰ See Press Release, Federal Trade Commission, FTC Settlement Bars Patent Assertion Entity From Using Deceptive Tactics (Nov. 6, 2014), available at <https://www.ftc.gov/news-events/press-releases/2014/11/ftc-settlement-bars-patent-assertion-entity-using-deceptive>.

5. In a blog post last year, Cisco General Counsel Mark Chandler praised inter partes reviews, saying “[t]he new tool has been a boon for the victims of shake down tactics to extract value from weak patents.”

It seems as though if there are entities misusing patents to “shake down” businesses, we should be going after that bad conduct, not weakening the patent system.

That is exactly what the STRONGER Patents Act does. It treats the sending of abusive demand letters as an unfair and deceptive practice and gives the Federal Trade Commission the authority to crack down on these practices.

Do you agree that it is better to give the Federal Trade Commission the authority to stop abuses of the patent system rather than weakening patent rights across the board by subjecting them to repeated review by the Patent Office? Why or why not?

If the real concern is abusive behavior that is fraudulent or similarly abusive, there are many existing tools in the legal system to address these valid concerns without resort to creating a new administrative tribunal at the Patent Office that fails to follow basic tenets of the rule of law or due process. The FTC can address deceptive commercial and legal behavior, such as its sanction of MPHJ for sending deceptive demand letters that contained false and misleading information about its patents and other matters.⁶¹ The STRONGER Patents Act rightly affirms this power to address abusive, fraudulent behavior, and it focuses rightly on the behavior, as opposed to permitting serial petitions to invalidate patents at the PTAB, sometimes for reasons having nothing to do with the validity of a patent.

⁶¹ See Press Release, Federal Trade Commission, FTC Settlement Bars Patent Assertion Entity From Using Deceptive Tactics (Nov. 6, 2014), *available at* <https://www.ftc.gov/news-events/press-releases/2014/11/ftc-settlement-bars-patent-assertion-entity-using-deceptive>.