

Before the
Federal Trade Commission
Washington, DC

In re

Competition and Consumer Protection
in the 21st Century

Hearing #4: Oct. 23-24, 2018
Innovation and Intellectual Property Policy

Docket No. FTC-2018-0090

**COMMENTS OF '
COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION '**

The Computer & Communications Industry Association (CCIA)¹ is an international non-profit membership organization representing companies in the computer, Internet, information technology, and telecommunications industries. Together, CCIA's members employ nearly a million workers and generate approximately \$540 billion dollars in annual revenue. CCIA promotes open markets, open systems, open networks, and full, fair, and open competition.

CCIA's members are some of the most frequent participants in the U.S. patent system. Two of the top five patent recipients in 2017 were CCIA members, and CCIA members are estimated to hold at least 100,000 active patents, or approximately 3% of all active patents. CCIA members also actively participate in patent litigation and *inter partes* review (IPR) proceedings. Association members regularly create and commercialize new technologies like cloud computing, artificial intelligence, and innovative semiconductors. These creations require significant R&D investment. The five U.S. companies with the most investment in R&D are all information and communications technology (ICT) companies, and three are CCIA members. CCIA members also face abusive patent litigation and recognize that while a robust patent system can incentivize investments in inventive action, these benefits can be outweighed by the issuance of invalid patents. A strong patent system is therefore one that encourages and protects inventive activity while also providing fair and effective avenues to challenge those invalid patents that do issue.

These comments provide additional factual basis for certain aspects of the oral testimony by CCIA's Matt Schruers at the Commission's hearing on October 24, 2018, and provide evidence that suggests that other statements made at the hearing were unfounded.

¹ A complete list of CCIA members is available at <https://www.ccianet.org/members>.

I. The Supreme Court’s rulings on § 101 impact a limited subset of patent applications, improve patent litigation, and do not appear to have had a broad negative impact on patent prosecution

The Supreme Court’s quartet of patent eligibility cases (*Bilski*, *Mayo*, *Myriad*, and *Alice*²) have had positive impacts on patent law as a whole.

While they have prevented the issuance of certain patent applications, the impacted applications are primarily either in the business methods art unit or in similar art units in other technology centers.³ The vast majority of patent applications are unaffected.⁴ And even with respect to affected patent applications, many issue after overcoming the *Alice* rejection.⁵ Given the lack of impact on most patent applications, and the fact that the impacted patent applications are primarily business method and similar patents—the exact patents that a White House study on Patent Assertion Entities (PAEs) found particularly likely to be used in PAE lawsuits⁶—this increase is likely due to marginal patents being excluded from patentability with a limited (or even positive⁷) impact on the innovation environment.

And in patent litigation, the *Alice* decision in particular has proven to be a useful tool for challenging overbroad and abstract patents that never should have been issued, while still permitting patents that implement concrete technological solutions to problems. A reasonable estimate of the deadweight loss reduction created just by the use of *Alice* motions early in cases is \$114 million, with additional reductions due to the reduced cost of litigation and reduced amount of litigation from the availability of *Alice* defenses.⁸

Finally, CCIA notes that serious methodological flaws undermine suggestions from some commentators that patent applications are being allowed abroad while rejected in the United States due to patentable subject matter differences. The main database cited in such commentary is the Kappos/Sachs database.⁹ However, a review of the Kappos/Sachs data suggests that the data does not actually show rejections on the basis of patentable subject matter. For example, reviewing the 14 patents cited in a paper by Madigan and Mossoff, only one was clearly

² See *Bilski v. Kappos*, 561 U.S. 593 (2010); *Mayo v. Prometheus*, 566 U.S. 66 (2012); *Association for Molecular & Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576 (2013); and *Alice Corp. v. CLS Bank International*, 573 U.S. 208 (2014).

³ See Landau, “Increase In § 101 Rejections Due Almost Entirely To Rejected Business Methods”, *Patent Progress &* (Dec. 6, 2018), available at <https://www.patentprogress.org/2018/12/06/increase-in-%C2%A7-101-rejections-due-almost-entirely-to-rejected-business-methods/>.

⁴ See Landau, “The Alice Storm is More of a Drizzle”, *Patent Progress* (Dec. 15, 2017), available at & <https://www.patentprogress.org/2017/12/15/alice-storm-drizzle/>.

⁵ See Landau, “The Alice Drizzle—Barely Even Noticeable”, *Patent Progress* (Jan. 10, 2018), available at & <https://www.patentprogress.org/2018/01/10/alice-drizzle-barely-even-noticeable/>. !

⁶ See Executive Office of the President, “Patent Assertion and U.S. Innovation” at 5 (June 2013). !

⁷ The absence of marginal patents can have a positive impact by reducing the risk for other innovators in the field. ! Cf. Tucker, “The Effect of Patent Litigation and Patent Assertion Entities on Entrepreneurial Activity” (June 2014), available at <http://www.ccianet.org/wp-content/uploads/2014/06/Tucker-Report.pdf>. !

⁸ See Brief of the Computer & Commc’ns Indus. Ass’n as Amicus Curiae in Support of the Petitioner, *HP v. & Berkheimer*, Case No. 18-415 at 9 (2018) (*certiorari* stage), available at <http://www.ccianet.org/wp-content/uploads/2018/11/2018-11-13-Berkheimer-Amicus.pdf>. !

⁹ See, e.g., Madigan & Mossoff, “Turning Gold to Lead: How Patent Eligibility Doctrine Is Undermining U.S. ! Leadership in Innovation”, George Mason Law & Economics Research Paper 17-16 at n.10 (2017) (citing the Kappos/Sachs database), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2943431. !

abandoned in the United States due to patentable subject matter rejection.¹⁰ In three of the fourteen, patentable subject matter rejections were overcome at the time of abandonment (or would have been overcome by a proposed examiner's amendment.) And one patent had never been rejected under § 101 at any point in its prosecution. The remaining patents were rejected for reasons of prior art or clarity. A review of an additional 86 patents found that, of the 100 reviewed patent applications, 19 were not under patentable subject matter rejection when abandoned and 11 had never received a patentable subject matter rejection.¹¹ In contrast, only 14 had been abandoned solely because of § 101 concerns. Because of these fundamental flaws in the Kappos/Sachs data, any analysis based upon it cannot be considered reliable evidence.

II. ' AIA trials have created significant efficiencies in the patent system while maintaining fair outcomes

CCIA has previously estimated that, during its first five years of operation, the IPR procedure has saved participants in the patent system at least \$2.31 billion in deadweight losses, in addition to reducing the number of economic transfers made for technology which should not have been patentable.¹² In fact, the increased efficiency due to IPR, along with other patent system reforms, can be observed in the reported cost of litigation, which has declined by approximately 50% since IPR became available.¹³ This alone represents a significant improvement in efficiency across the patent system.

Contrary to the assertions made at the hearing that PTAB proceedings might be unfair or biased, the data makes clear that the outcomes of AIA trials such as IPR are generally comparable to the outcomes in other countries. In oppositions in Europe, approximately 33% of oppositions are rejected entirely, and 27% of oppositions result in the invalidation of all claims. The remaining 40% represent instances in which the patent is modified in some way.¹⁴ In nullity proceedings in Germany, excluding settled proceedings, the nullity court finds 39% of patents completely invalid, 37% partly valid, and 24% completely valid.¹⁵ And U.S. district courts find patents invalid approximately 42.6% of the time.¹⁶ The Patent Trial and Appeal Board (PTAB), when conducting IPRs and excluding settlements, leaves approximately 54.4% of challenged patents untouched, with the remaining 45.6% of patents invalidated in part or in whole.¹⁷

¹⁰ See Landau, "'Gold Into Lead' Article Focuses On Pyrite Patents", *Patent Progress* (June 12, 2018), available at & <https://www.patentprogress.org/2018/06/12/gold-into-lead-article-focuses-on-pyrite-patents/>.

¹¹ Data available upon request. !

¹² See Landau, "Inter Partes Review: Five Years, Over \$2 Billion Saved", *Patent Progress* (Sept. 14, 2017), ! available at <https://www.patentprogress.org/2017/09/14/inter-partes-review-saves-over-2-billion/>. !

¹³ See Landau, "IPR And Alice Appear Responsible For Reduced Patent Litigation Costs", *Patent Progress* (Oct. ! 18, 2018), available at <https://www.patentprogress.org/2018/10/18/ipr-and-alice-appear-responsible-for-reduced-patent-litigation-costs/>.

¹⁴ See EPO 2017 Annual Report (2017), available at <https://www.epo.org/about-us/annual-reports-statistics/annual-report/2017/statistics/searches.html#tab4>.

¹⁵ See Cremers *et al.*, "Invalid but infringed? An analysis of the bifurcated patent litigation system", 131 *J. Econ. Behavior & Org.* 218, 234 (2016), available at & <https://www.sciencedirect.com/science/article/pii/S0167268116301640>. !

¹⁶ See Allison *et al.*, "Our Divided Patent System", 82 *U. Chi. L. Rev.* 1073 (2015) (surveying U.S. district court cases, including validity under 35 U.S.C. §§ 101, 102, 103, and 112).

¹⁷ See Landau, "A Little More Than 40 Percent: Outcomes At The PTAB, District Court, and the EPO", *Patent & Progress* (May 1, 2018), available at <https://www.patentprogress.org/2018/05/01/a-little-more-than-forty-percent/>.

In addition, contrary to the concerns expressed at the hearing about “serial challenges” to patents at the PTAB, the evidence makes clear that such challenges are extremely rare as well as disfavored by the PTAB’s own rules. Two out of three (67%) patents challenged in IPR face only a single petition, and 87% of patents face only one or two petitions.¹⁸ Even when a patent faces multiple petitions, the majority of those petitions are filed due to word limits on the size of a single petition.¹⁹ And 84% of all petitions are filed on or near the date on which the original petition was filed—hardly a “serial” petition.²⁰ Finally, of the 16% of petitions filed after a decision on institution—after the PTAB has provided an initial opinion on whether the original petition would succeed—the majority are so-called ‘me too’ petitions filed to join a new party to an existing petition.²¹ The complaint that “serial petitions” are common is not supported by the data. The PTAB’s rules also discourage such petitions.²²

Further, post-grant proceedings such as IPR are essential to creating a cost-effective patent system. Contrary to suggestions made at the hearing, this burden cannot be placed solely on the Patent Office during front-end examination. As Prof. Mark Lemley put it, “[b]ecause so few patents are ever asserted against a competitor, it is much cheaper for society to make detailed validity determinations in those few cases than to invest additional resources examining patents that will never be heard from again.”²³ Creating an examination system that ensures validity to the extent that no post-grant proceeding would be required would significantly increase overall costs of the patent system.

While some increase in front-end examination cost is likely appropriate—for example, recent empirical work suggests that roughly doubling examiner time would create significant savings to the patent system²⁴—placing the level of scrutiny employed during IPR on every patent application would result in the patent application process becoming unaffordable to many applicants and would likely result in fewer patent applications. A combination of enhanced front-end scrutiny during examination by the Patent Office and a strong second look in post-grant proceedings such as those Congress created in the AIA provides the most cost-effective approach to ensuring patent validity.

¹⁸ See USPTO, “An Analysis of Multiple Petitions in AIA Trials” 14 (Oct. 24, 2017), available at https://www.uspto.gov/sites/default/files/documents/Chat_with_the_Chief_Boardside_Chat_Multiple_Petition_Study_20171024.pdf#page=14.

¹⁹ See Landau, “Multiple Petitions? More Like Multiplicative Claiming And Assertion”, *Patent Progress* (Aug. 24, 2017), available at <https://www.patentprogress.org/2017/08/24/multiple-petitions-more-like-multiple-claims-and-lawsuits/>.

²⁰ See USPTO Analysis of Multiple Petitions at 17.

²¹ See USPTO Analysis of Multiple Petitions at 19.

²² See *General Plastic Industrial Co., Ltd. v. Canon Kabushiki Kaisha*, Case IPR2016-01357, Paper 19 (2017) (explaining the factors the PTAB uses to determine whether to deny a follow-on petition, including factors that describe a hypothetical serial challenge).

²³ See Lemley, “Rational Ignorance at the Patent Office”, 95 Nw. L. Rev. 1 (2001), available at & https://papers.ssrn.com/sol3/papers.cfm?abstract_id=261400.

²⁴ See Frakes & Wasserman, “Irrational Ignorance at the Patent Office”, 72 Vanderbilt L. Rev. (forthcoming 2019), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3284109.

III. Negative impacts on innovation have not been observed

In addition to the benefits described above, the evidence suggests that there have been positive impacts on the patent system due to the AIA and patentable subject matter reforms, as well as other litigation reforms.

For example, in the year after the *Alice* case restricted patentable subject matter for computer-implemented abstract ideas, R&D expenditures in the software industry grew faster than in any other industry.²⁵ Software industry contributions to GDP continued to increase afterwards, contributing more than \$1 trillion to U.S. GDP in 2016.²⁶ Similarly, venture funding in biotechnology has more than doubled as a percentage of all U.S. venture capital funding since the *Mayo* and *Myriad* decisions.²⁷ Despite these industries being the most directly impacted by patentable subject matter reforms, investment and R&D in those industries has not been negatively impacted.

General startup activity and venture capital activity also suggest that the U.S. innovation environment remains strong. Startup activity in innovative high-growth startups has risen from a 2011 low point to a consistently strong level in the past three years.²⁸ And venture capital activity has continued to steadily increase.²⁹ Claims that venture capital is unavailable without patents are also belied by research into the topic, which suggests that the venture capital community has an overall negative view of patents³⁰ and that, while a baseline level of patent protection is important for venture capital funding, too much protection results in negative impacts on innovation and funding.³¹ No negative impact from *Alice* or IPR can be observed in either area.³²

Finally, economic research suggests that not only has *Alice* not had a negative impact, but it has actually had a positive impact. In particular, research suggests that as the risk of being sued on low-quality business method patents declined after *Alice*, firms reacted by shifting money into R&D.³³

This data suggests that rankings such as the Chamber's GIPC Intellectual Property Index, which suffers from deficiencies such as basing its ranking on the incorrect claim that "only about

²⁵ PwC, "2015 Global Innovation 1000: Innovation's New World Order" at 14 (2015), available at <https://www.strategyand.pwc.com/media/file/2015-Global-Innovation-1000-Fact-Pack.pdf>.

²⁶ BSA, "The Growing \$1 Trillion Economic Impact of Software" (2017), available at <https://software.org/reports/2017-us-software-impact/>.

²⁷ See NVCA/Pitchbook Yearbook 2018.

²⁸ See Kaufman Foundation, "Kaufman Index: Growth Entrepreneurship" at 11 (2017), available at <http://www.kauffman.org/kauffman-index/reporting/-/media/8cbc2c338f81411ab3ac9a39b94c2ffa.ashx>.

²⁹ PwC/CB Insights, "MoneyTree Report: Q4 2017" at 7 (2018), available at https://www.pwc.com/us/en/moneytree-report/assets/MoneyTree_Report_Q4_2017_FINAL_1_10_18.pdf.

³⁰ See Feldman, "Patent Demands & Startup Companies: The View from the Venture Capital Community", UC Hastings Research Paper No. 75 (2013), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2346338.

³¹ See Tucker, "The Effect of Patent Litigation and Patent Assertion Entities on Entrepreneurial Activity" (June 2014), available at <http://www.ccianet.org/wp-content/uploads/2014/06/Tucker-Report.pdf>.

³² One commentator has purported to find negative impacts on venture investment. That report and testimony suffers from serious flaws, as outlined in CCIA's letter for the record to the House Small Business Committee regarding the testimony of the report's author. A copy of CCIA's letter is available at <http://www.ccianet.org/wp-content/uploads/2018/08/2018-07-17-HSBC-Letter-Re-USIJ-Testimony-and-Report.pdf>.

³³ See Sridhar Srinivasan, "Do Weaker Patents Induce Greater Research Investments?" (2018), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3185148.

5-15% of cases end with all claims being considered patentable” despite nearly 40% of cases being dismissed at the institution threshold,³⁴ do not accurately reflect the innovation environment in the United States. In reality, contrary to the repeated references by some witnesses to negative impacts on innovation due to the reforms described above, there is no factual evidence of such negative impacts on record.

IV. Work remains to be done to promote certainty in intellectual property

While the reforms described above have been effective, they have not rendered moot all concerns about the intellectual property system. Certainty in intellectual property means that all parties, including the public, can be certain of what they are and are not permitted to do. A patent system that allows unclear patents to issue promotes uncertainty and abusive litigation.

As a final caution, CCIA notes that any considerations of patent litigation data must be tempered by the recognition that much of the activity in the patent system is outside of the context of lawsuits and prosecution, with an estimated 70% of patent demands never leading to litigation and thus not captured in litigation datasets.³⁵ The scale of the problem of abusive patent litigation will always be larger than can be observed.

But even the observable data suggests room for improvement remains. As shown in the work of Dr. Shawn Miller, who testified in an earlier panel at the October 24 hearing, the number of defendant-lawsuit pairs³⁶ in 2015 had decreased only to the number of defendant-lawsuit pairs in 2010—immediately before Congress implemented patent reform in the America Invents Act.³⁷ If reforms have only succeeded in returning us to that point, then work remains to be done on ensuring a balanced patent system that will create a positive innovation environment for all participants. CCIA stands ready to assist the Commission in its efforts towards this end.

December 21, 2018

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³⁴ See Landau, “Chamber of Commerce Patent System Ranking Is Built On A Shaky Foundation”, *Patent Progress* (Feb. 12, 2018), available at <https://www.patentprogress.org/2018/02/12/chamber-commerce-patent-system-ranking-built-shaky-foundation/>.

³⁵ See Lemley *et al.*, “The Patent Enforcement Iceberg”, Stanford Public Law Working Paper (2018), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3087573.

³⁶ Dr. Miller uses the defendant-lawsuit pair, rather than raw number of lawsuits, in order to correct for the effects of the AIA’s joinder provisions.

³⁷ See Miller *et al.*, “Who’s Suing Us? Decoding Patent Plaintiffs since 2000 with the Stanford NPE Litigation Dataset”, 21 *Stan. Tech. L. Rev.* 235, 258 (2018), available at https://law.stanford.edu/wp-content/uploads/2018/09/Miller_LL_20180910.pdf#page=24.