

No. 10-290

In the Supreme Court of the United States

MICROSOFT CORPORATION, PETITIONER

v.

I4I LIMITED PARTNERSHIP AND
INFRASTRUCTURE FOR INFORMATION INC.

***ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT***

**BRIEF OF AMICI CURIAE VENTURE CAPITAL
FIRMS ABERDARE VENTURES, AFFINITY
CAPITAL, ALTA PARTNERS, ARCH VENTURES,
ASSET MANAGEMENT COMPANY, ATLAS VEN-
TURES, CANAAN PARTNERS, DELPHI VEN-
TURES, HLM VENTURE PARTNERS, KEARNY
VENTURE PARTNERS, LATTERELL VENTURE
PARTNERS, NEW ENTERPRISE ASSOCIATES,
PROSPECT VENTURE PARTNERS, THOMAS,
MCNERNEY & PARTNERS, U.S. VENTURE PART-
NERS, VENROCK, VENTURE INVESTORS, LLC,
VERSANT VENTURES, AND THE VERTICAL
GROUP, IN SUPPORT OF RESPONDENTS**

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INTEREST OF AMICI CURIAE¹

Amici are nineteen leading venture capital firms that invest in emerging growth companies in sectors such as computer hardware and software, biotechnology and medical devices, semiconductors and telecommunications, and clean technology.² Together with other venture capital firms, they invest billions of dollars each year in start-up and early stage companies that are the driving force behind innovation and job growth in the United States. Much of that investment is in companies whose sole asset is patented technology. Accordingly, amici are sensitive to the effects that any changes in patent protection could have on emerging companies, and are uniquely positioned to advise the Court of the practical consequences of weakening the existing presumption of patent validity for venture capital investment and the industries it supports.

SUMMARY OF ARGUMENT

Confidence that a new start-up company's innovative technology will enjoy patent protection is critical to a venture capital firm's decision to invest in that company. Replacing the clear-and-convincing standard for overcoming the presumption of a patent's validity with a preponderance standard would dramatically re-

¹ The parties have consented to the filing of this brief in letters on file with the Clerk. No counsel for any party authored this brief in whole or in part, and no person or entity, other than amici curiae, their members, or their counsel, made a monetary contribution intended to fund the preparation or submission of this brief.

² The amici firms are identified in an addendum hereto.

duce investment in the innovative companies that drive our Nation's economic growth.

Venture capital investment has had a profound impact on job creation and economic growth in the United States. But that investment is heavily dependent on strong patent protection. For many start-up companies, their central asset is an innovative technology. Without patent protection, such emerging companies could not hope to compete with more established firms, which would simply take and copy the new product.

Venture capital firms go to great lengths to assess the likelihood that a start-up's technology will enjoy patent protection before committing to an investment. Because start-up enterprises are inherently risky, the risk-to-benefit ratio is already at the margin of acceptable investments. Additional risk that the start-up's central asset will lack patent protection would render an otherwise promising investment opportunity unacceptable. Indeed, the strength of a company's patents, including the likelihood that they will be upheld as valid, is often the determining factor in whether an investment is made.

A shift from the clear-and-convincing standard to a preponderance standard would dramatically increase the risk that any given patent could be found invalid. The presumption of validity for a duly issued patent, and the clear-and-convincing standard for overcoming that presumption, reflect an appropriate deference to the expertise of PTO examiners, who are well-versed in the technical sub-field of the patent application and the art relating to it. Venture capital firms rely on the opinions of counsel who are similarly expert and can pre-

dict with some confidence whether a company will receive a patent.

By contrast, it would be nearly impossible to predict with any degree of certainty the outcome of a jury trial in which patent validity is determined by a preponderance of the evidence. Invalidity challenges often involve conflicting expert testimony about highly technical concepts unfamiliar to generalist judges and lay jurors. Absent a clear-and-convincing standard to provide some deference to the expert judgment of the PTO, judges and juries will be cast adrift to evaluate this evidence purely on their own, which will necessarily lead to increased uncertainty regarding the outcome of litigation. The resulting decrease in confidence that a start-up company's critical technology will enjoy patent protection will lead venture capital investors to refrain from investing in entire sectors of the economy that require significant investments of capital or time to develop an innovative technology.

The Court should also reject the illusory compromise of a hybrid standard. From the perspective of venture capital investors, such an approach would be indistinguishable from an across-the-board preponderance standard. Challengers in nearly every case will seize upon some reference of prior art that the examiner arguably did not "consider." The increased likelihood that a patent would be declared invalid under a simple preponderance standard would itself render patent protection sufficiently uncertain that venture capitalists would refrain from investing in innovative companies that are dependent on patented technology.

ARGUMENT

Technology-based start-up companies play a key role in driving the Nation's economic growth. Patent protection is essential to the success of such companies. Without the assurance of meaningful protection for their technological innovations, new companies cannot hope to compete with more established rivals. In deciding to invest in technology-based start-up ventures, investors, such as amici, must have a high degree of confidence long before a patent's validity has been litigated—often even before a patent has issued—that the company will have patent protection for its critical technology. Without confidence that a start-up company's intellectual property will be protected, investors will not commit the considerable resources necessary to bring future innovative products to market.

It is the admitted aim of Microsoft and some of its amici to make it easier, and thus more common, to invalidate patents issued by the United States Patent and Trademark Office ("PTO"). Allowing patents to be invalidated on a mere preponderance-of-the-evidence standard, as petitioner proposes, would dramatically increase the unpredictability of patent litigation. By undermining investors' confidence in the strength of patents, petitioner's proposed change in the law would dramatically reduce investment in technology-driven start-up companies, to the detriment of innovation and economic growth in the United States.

I. VENTURE CAPITAL INVESTMENT IN INNOVATIVE TECHNOLOGIES, WHICH ACCOUNTS FOR MUCH OF THE NATION'S ECONOMIC GROWTH, REQUIRES CONFIDENCE THAT THE INNOVATION WILL HAVE PATENT PROTECTION

Start-up companies, backed by venture capital investment, are the primary engines of economic growth in the United States. For many start-up entities, the company's sole asset is an innovative technology, and venture capital firms are the only source of the funding necessary to develop that technology. In deciding whether to invest, venture capitalists thoroughly evaluate a start-up's technology to determine its eligibility for patent protection and, if patentable, the scope of that protection. A venture capital investor's confidence that a patent may be obtained and enforced is, thus, critical to a start-up's ability to obtain the funding necessary to commercialize new technology.

A. Venture Capital Investment In Innovative Technology Has A Disproportionate Impact On Economic Growth In The United States

As the Department of Commerce has recognized, “[v]enture-backed startups disproportionately generate the new technological improvements upon which growth depends.” U.S. Dep’t of Commerce, *Patent Reform: Unleashing Innovation, Promoting Economic Growth & Producing High-Paying Jobs* 3 (2010) (“*Patent Reform*”). Since 1970, venture capital firms have invested more than \$450 billion in nearly 30,000 companies.³ Nat’l Venture Capital Ass’n, *Venture Impact:*

³ Indeed, Microsoft and many of its amici are technology companies founded since the 1970s that received early investment

The Economic Importance of Venture-Backed Companies to the U.S. Economy 9-10 (5th ed. 2009), available at http://www.nvca.org/idex.php?option=com_content&view=article&id=255&Itemid=103 (“*Venture Impact*”). The impact of that investment on the broader U.S. economy has been even more remarkable. In 2008, venture-backed companies accounted for 12.1 million jobs and \$2.9 trillion in revenue in the United States, or 21% of the U.S. Gross Domestic Product (“GDP”). *Id.* at 2.⁴ Thus, the importance of venture capital investment to a robust U.S. economy simply cannot be overstated.

Venture capital has given birth to entirely new industries. In the 1970s, venture capitalists helped found the biotechnology industry by investing in innovative companies like Amgen and Genentech. *Venture Impact* 11. In the decades since, venture capitalists have been instrumental in providing the seed capital that has spurred the dramatic growth of the computer software, semiconductor, online retailing, and life sciences industries. *Ibid.* More recently, venture capital has nourished the emerging clean technology industry. *Ibid.*

from venture capitalists critical to those companies’ success. See *Venture Impact* 1, 6 (noting that Microsoft, Intel, Apple, Cisco, eBay, Google, and Facebook were all venture-backed companies).

⁴ Another study has similarly found that “venture capital, even though it has been less than 3% of corporate R&D in recent years, is responsible for a much greater share—perhaps 15%—of U.S. industrial innovations.” Samuel Kortum & Josh Lerner, *Does Venture Capital Spur Innovation?* (November 1998) (unpublished manuscript), available at <http://ssrn.com/abstract=10583>.

The benefits of venture-backed start-ups go far beyond their impact on GDP. These new industries create high-paying jobs that elevate real wages in the United States. “[I]nnovation,” largely financed by venture capital, “produces high-paying jobs” and “is the primary driver of increases in real wages.” *Patent Reform* 3. While real compensation per employee increased by only 20.2% in the private sector from 1990–2007, real compensation in “innovative industries, including computers, electronics, and chemicals,” increased by more than 50% during that time. *Ibid.* Innovative industries also create “green collar” jobs in environmentally-friendly industries and drive U.S. exports. See *Venture Impact* 7; Nam D. Pham, *The Impact of Innovation and the Role of Intellectual Property Rights on U.S. Productivity, Competitiveness, Jobs, Wages, and Exports* 5 (2010) (noting that industries dependent on intellectual property “accounted for about 60 percent of total U.S. exports” from 2000–2007). Moreover, the technological advancements that have been commercialized through venture capital investments have improved countless lives around the world. In the life sciences sector, venture-backed companies have literally saved millions of lives. *Supporting Innovation in the 21st Century Economy: Hearing Before the Subcomm. on Tech. and Innovation of the H. Comm. on Sci. and Tech.*, 111th Cong. 68 (2010) (testimony of Paul Holland, General Partner, Foundation Capital) (“Holland Testimony”).

B. In Many Sectors, The Protection Afforded By A Patent Is Essential To A Start-Up Company’s Success

The protections from competition afforded by patents have always been recognized as essential to fos-

tering innovation. As this Court has repeatedly observed, “[t]he patent laws promote * * * progress by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development.” *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 180 (1974); see *Diamond v. Chakrabarty*, 447 U.S. 303, 307 (1980) (“The patent laws promote this progress [described in Art. I, § 8, cl. 8 of the Constitution] by offering inventors exclusive rights for a limited period as an incentive for their inventiveness and research efforts.”).

Meaningful patent protection—the inventor’s statutory right to exclude others from practicing an invention for a limited period of time—helps to level the playing field between new entrants and established companies, all for the ultimate benefit of the public. Indeed, long before the First Congress established the United States patent system in 1790, patent systems provided a significant incentive to attract and develop new technology in both Europe and colonial America. See Herbert F. Schwartz & Robert J. Goldman, *Patent Law and Practice* 1–2 & n.5 (6th ed. 2008).

The critical function of patents in encouraging investment in research and development is equally true today. See, e.g., U.S. Fed. Trade Comm’n, *The Evolving IP Marketplace* 43 (2011) (“*FTC Report*”) (“[O]ne of a start-up’s most valuable assets may be its patent estate” which investors view “as important for recouping their investment.”); H.R. Rep. No. 97-312, at 23 (1981) (recognizing the critical role that patents serve “as a stimulus to the innovative process” that has “important positive ramifications for the nation’s economy”). Start-up companies face daunting challenges in trying to bring innovative products to the market. In many cas-

es, a new company's only chance of success lies in the protection that a patent affords to the company's new technology.

Established companies in an industry hold numerous advantages with which start-ups must contend. Established companies have sales and marketing presence; existing manufacturing facilities and service and support systems; economies of scale; the ability to bundle ancillary products; and the name recognition that creates customer confidence and loyalty. See *Patent Reform Impact on Small Venture-Backed Companies: Hearing Before the H. Small Bus. Comm.*, 110th Cong. 98 (2007) (testimony of John Neis, Managing Director, Venture Investors) ("Neis Testimony"). Even in fast-moving industries that reward a new company's speed and quality, the advantages of an established competitor can be difficult to overcome. In those sectors of the economy that require significant capital-intensive investments or lengthy regulatory approval processes before a product ever reaches the market, the advantages of incumbency would be enough to squash any new start-up in the absence of strong patent protection.

The initial investment required to bring innovative ideas to the market can be enormous, particularly in the life sciences and emerging clean technology industries. See Gardiner Harris, *Cost of Developing Drugs Found to Rise*, Wall St. J., Dec. 3, 2001, at B14 ("[T]he average cost of discovering and developing a new medicine has risen to \$802 million * * * ."). "Pioneering clean-tech inventions," for example, "require[] a huge investment upfront," and some will "take hundreds of billions of dollars to bring * * * to market." See *Climate for Innovation: Hearing Before H. Select Comm. on Energy Independence and Global Warming*, 111th

Cong. 31, 33 (2009) (testimony of Robert T. Nelsen, Co-founder and Managing Director, ARCH Venture Partners) (“Nelsen Testimony”). Where such technology is developed by a start-up company, with no revenues to invest and no assets against which to borrow, it would be impossible to attract the investment necessary to develop an innovative product without investors’ well-founded confidence that patent protection will allow the start-up an opportunity to recoup that investment. See *FTC Report 44* (noting that “[a] survey of start-up companies confirms that patents play an important role in attracting all types of investment, but in particular venture capital”).

In addition to considerable capital investment, start-ups in many fields require significant time to develop a new invention into marketable products. In many cases, it takes years of research and development for a new technology to be commercialized and brought to market. In regulated industries like life sciences, the process can take even longer due to the need to conduct clinical trials and obtain FDA approval. Indeed, “the discovery and development of a new medicine takes about 12 to 15 years.” Neal Masia, *The Cost of Developing a New Drug, in Focus on Intellectual Property Rights* 82 (U.S. Dep’t of State, Bureau of Int’l Info. Programs, 2006). This delay makes it almost certain that, without the protections afforded by a patent, a start-up company’s more established competitors would always take advantage of the start-up’s new technology as soon as the product is ready for the market. Without the guaranteed period of exclusivity secured by strong patents, start-ups would not be able attract the investment necessary to develop their new technologies into marketable products, because “no investor in this coun-

try will put money into an innovation that is going to be quickly copied as soon as it hits the market.” See Nelsen Testimony 31.

C. In Industries Requiring Significant *Ex Ante* Investment, Venture Capital Firms Will Not Invest Without Confidence That A Company’s Patents Will Be Found Valid

Venture capital investment carries extraordinary risk. Venture capitalists try to manage that risk by conducting thorough diligence and investing in only those companies with the greatest probability of success. A critical component of managing risk is assessing the strength of an emerging company’s technology, including the probability that patents will issue for the innovation and, if issued, will be sustained as valid should litigation ensue. Thus, any increase in the possibility that patents examined and issued by the PTO will later be found invalid would have immense impact on venture capital investment.

- 1. All venture capital investments are marginal, and therefore even a small increase in risk can result in rejection of a funding request**

Venture capital is the most risk-intensive asset class in the world. It is invested in companies with no track record and no collateral, seeking capital based on little more than an idea and a rudimentary business plan. One in every three venture-backed companies fail, *Venture Impact* 3, and only one in six will ever be taken public, Nat’l Venture Capital Ass’n, *Yearbook 2010*, at 8 (2010).

Because they carry such high risk, innovative start-up companies are often unable to attract more traditional capital from conservative investors. Start-ups lack the collateral, for example, to secure traditional bank loans. And their capital needs typically exceed the amounts that can be provided by angel investors or friends and family. Even hedge funds and other similar alternative investment classes shy away from the risks associated with investing in innovative start-up companies. These fledgling enterprises lack the assets and track record necessary to draw private equity investment, and they do not present the opportunity for short-term gain sought by hedge funds. *Venture Impact* 4. As a result, venture capital usually represents the *only* source capable of supplying the funds necessary for innovative start-up companies to succeed. *Id.* at 19 (“In our current financial system, venture capital is the only source of long-term, institutional funding for such companies.”); see Holland Testimony 67 (“Many * * * ideas would never see the light of day were it not for venture investment.”).

By definition, *all* venture capital investments are marginal: they barely exceed the minimal requirements that make the risk tolerable. If they were less risky, they would likely be backed by something other than venture capital. Accordingly, any increase in risk can (and often does) render an investment opportunity unattractive, leaving an otherwise-promising company unfunded.

2. Venture capital firms conduct intensive patent analysis and will not invest in a company with patents of questionable validity

While venture capital firms have a higher tolerance for risk than other investors, they are not gamblers. Venture capitalists seek to assess, manage, and minimize risk. Because of the risks associated in investing in emerging companies, venture capital firms are particularly selective in the companies they fund. For every 100 investment opportunities presented, only 10 proceed to due diligence and only one gets funded. *Venture Impact* 4.

Venture capitalists seek to minimize the risks associated with investing in emerging companies by conducting rigorous due diligence of those companies identified as promising targets. See Holland Testimony 67 (“[W]e conduct a thorough due diligence process on the entrepreneur or scientist, the technology * * * and the potential market.”) That due diligence focuses on dozens of risks: Does the technology work? Is there a market for it? Is the market accessible? Who are the competitors? Does the entrepreneur have the skills to bring the concept to the market? Regulated industries present further risks: Can clinical trials be conducted? Will they be successful? Can regulatory approval be obtained? Because of the many risk factors emerging companies present, even those that survive this analysis are at the margin of being viable investments.

The final risk analyzed by venture capitalists is usually the potential strength of the company’s intellectual property and, in particular, its patent potential. Because of the expense involved, venture capital firms

typically forego an analysis of a target company's patents until they are certain that the company presents an otherwise viable investment opportunity. Patent analysis, therefore, literally becomes the make-or-break stage in deciding whether to invest. Unless venture capitalists can determine with a reasonable degree of certainty that a patent will be granted by the PTO, will reasonably protect the company's inventions, and will have a high probability of surviving subsequent challenge, *e.g.*, in litigation, the investment simply will not be made. In short, the perceived strength of a patent "is a determining factor in [a venture capitalist's] investment decision." Press Release, Nat'l Venture Capital Ass'n, National Venture Capital Association Encourages Congress to Support Innovators in Patent Reform Legislation 1 (Oct. 25, 2007).

The analysis of the patent potential of a new venture involves two inquiries. The first inquiry is whether a pending patent application will survive the examination process in the PTO and, if so, with what scope of protection. The second inquiry, assuming that the PTO decides to issue a patent, is whether that patent is likely to survive subsequent challenge in litigation to enforce the patent right against competitors. The answer to the first question can be a matter of degrees. During examination, an applicant has the opportunity to amend the scope of patent protection sought in view of the Patent Examiner's analysis of the prior art and related concerns. The answer to the second inquiry, on the other hand, is binary. Here, the risk is "all or nothing;"

if the patent is held invalid, the right to exclude is irretrievably destroyed.⁵

Patents are substantially weakened in the eyes of venture capitalists whenever additional uncertainty is introduced into the process for determining in subsequent litigation whether a patent, already examined and issued by the PTO, is valid. This Court has recognized that “clarity is essential to promote progress, because it enables efficient investment in innovation.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 730–731 (2002). Thus, as the National Venture Capital Association has succinctly explained: “Creating uncertainty around the validity of a patent adds another investment risk to the overall equation which venture capitalists use to make investment decisions. If the process becomes too uncertain, *VCs will stop investing.*” Nat’l Venture Capital Ass’n, *Patent Reform 3* (2007) (emphasis added).⁶

⁵ As *i4i* has suggested, see Resp. Br. 40–42, the reexamination process before the PTO differs significantly from a district court’s invalidity determination. Through the reexamination process, claims can be amended so that the genuine innovation receives patent protection even as unduly broad claims are trimmed. Thus, the prospect of reexamination does not carry the same risk to potential investors as the threat of a district court judgment of invalidity.

⁶ Not only can legal and regulatory changes result in diminished investment in new companies, such changes can also impact venture capitalists’ willingness and ability to continue funding companies in which they have already invested. See *Venture Impact 5* (“[I]f the risk profile changes significantly due to * * * regulatory policy, the VC’s responsibility to their limited partners will *require them to walk away.*” (emphasis added)).

The strength of the presumption of validity, at issue in this case, goes to the heart of the risk-benefit analysis. “[W]eaken[ing] the presumption of validity * * * increas[es] the risk for a venture backed company” making a venture capitalist “less likely to fund” innovative companies that rely on patented technology. Neis Testimony 99. Even those who maintain that our patent system is “broken” recognize the importance of preserving the existing presumption of validity:

There is * * * an important reason to maintain the presumption of validity. * * * When a start-up firm goes out to raise money * * *, it is important that the patent or patents that are claimed as the basis for * * * protecting the firm’s technology have the presumption of validity. If, instead, the validity issue were reduced to a legal coin flip, it would greatly increase uncertainty. Uncertainty is the enemy of investment, so patents of uncertain validity would be much less effective in providing a base for development of innovations.

Adam B. Jaffee & Josh Lerner, *Innovation and Its Discontents* 193–194 (2004).

In sum, patent strength is nearly always a critical risk factor considered by venture capitalists, and it is often the determining factor in whether an investment is made. As a result, any change in the governing law—no matter how slight—that increases the uncertainty surrounding patents’ validity will have far-reaching consequences for the flow of venture capital to innovative industries.

II. A SHIFT FROM THE CLEAR-AND-CONVINCING STANDARD TO THE PREPONDERANCE STANDARD WOULD SO WEAKEN CONFIDENCE IN PATENTS THAT VENTURE CAPITAL FIRMS WOULD CEASE INVESTING IN INNOVATIVE INDUSTRIES THAT RELY ON PATENTED TECHNOLOGY

The clear-and-convincing standard of proof for invalidity in litigation expresses the idea that patentability determinations, once made by Patent Examiners trained in both the patent law and relevant technology, should not lightly be overturned. In drafting 35 U.S.C. 282 in 1952, Congress recognized the expertise of the PTO and stated that the burden of proof “rests” on the party challenging validity of an issued patent. Thirty years later, the Federal Circuit recognized the need for deference to the PTO’s expertise when, in accordance with the precedents of this Court, it endorsed the clear-and-convincing standard to meet that burden of proof. *See Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359–1360 (citing *Radio Corp. of Am. v. Radio Eng’g Labs. Inc.*, 293 U.S. 1 (1934)), cert. denied, 469 U.S. 821 (1984). It is this clear-and-convincing standard that has provided the additional strength to patents that gives venture capital firms the confidence to invest hundreds of billions of dollars in the development of new technologies.

A. Lowering The Burden Of Proof Of Invalidity To A Preponderance Standard Would Weaken Patents Beyond The Risk Tolerance Of Venture Capital Investors

As a matter of simple logic, it is easier to satisfy the burden of “preponderance of the evidence” than it is to satisfy the burden of “clear and convincing evi-

dence.” Fed. Circuit Bar Ass’n, Model Patent Jury Instructions 11 (2010). As explained in form jury instructions, to satisfy a preponderance standard, the evidence must prove that the assertion—here the proposition that an examined and issued patent is invalid—is “more likely true than not.” *Ibid.* The “clear and convincing” standard, by contrast, requires evidence that leaves “a clear conviction that the fact has been proven.” *Ibid.* Thus, lowering the burden of proof of invalidity to a preponderance of the evidence would necessarily result in more patents being found invalid than under the existing clear-and-convincing standard.

The effect of lowering the burden of proof would be particularly pronounced in patent litigation because of the nature of patent validity disputes. The evidence of invalidity is often difficult for judges and juries with no training in the applicable technology to understand. This is in large part because the controlling legal standards require validity to be determined from the point of view of a scientist, *i.e.*, a person “having ordinary skill” in the technology at issue. See, *e.g.*, *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406, 417–418 (2007) (quoting and discussing nonobviousness under 35 U.S.C. 103).⁷ As a consequence, at trial, the patentee and the

⁷ Other invalidity defenses are also addressed to the person of ordinary skill in the art. See, *e.g.*, *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1082 (Fed. Cir. 2008), cert. denied, 130 S. Ct. 493 (2009) (anticipation under 35 U.S.C. 102); *Pandrol USA, LP v. Airboss Ry. Prods.*, 424 F.3d 1161, 1165 (Fed. Cir. 2005) (written description under 35 U.S.C. 112); *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296, 1305–1307 (Fed. Cir. 2010) (enablement under 35 U.S.C. 112); *Green Edge Enters., LLC v. Rubber Mulch etc., LLC*, 620 F.3d 1287, 1296–1297 (Fed. Cir. 2010) (best mode under 35 U.S.C. 112);

attacker typically offer directly conflicting expert testimony on validity issues. Absent a clear-and-convincing standard, judges and juries will be cast adrift to evaluate the experts' competing views on these highly technical issues in a vacuum, affording no deference to the PTO's conclusion that the invention was patentable. The choice between competing narratives of technical experts, under a preponderance burden of proof, can be little better than a coin toss. Thus, adoption of a lower, preponderance standard would make the outcome of validity determinations in patent litigation far more uncertain and, hence, impossible to predict with any confidence.

This case amply illustrates the extent to which replacing the clear-and-convincing standard with a preponderance standard would weaken patents and render the outcome of patent litigation less certain. Here, Microsoft has already twice failed to convince the expert examiners at the PTO (in reexamination and a petition for a second reexamination) that i4i's duly issued patent is invalid. Microsoft similarly lost on invalidity, including on some of the same arguments it had raised in reexamination, before a lay jury under the clear-and-convincing standard. Microsoft hopes that, by contrast, a lay jury applying a lower, preponderance-of-the-evidence standard might be persuaded to disagree with the repeated conclusions of the experts at the PTO. Indeed, it is the stated aim of Microsoft and many of its amici that juries applying the lower standard overturn patents approved by the PTO more readily. That like-

Enzo Biochem, Inc. v. Applera Corp., 599 F.3d 1325, 1332-1333 (Fed. Cir. 2010) (indefiniteness under 35 U.S.C. 112).

lihood—that the expert views of the PTO will be lightly set aside—is precisely what concerns venture capitalists asked to invest billions of dollars in start-ups that depend on patent protection for their success.

B. The Increased Risk Of Invalidation Will Cause Capital To Be Reallocated Away From Venture Capital And Towards Other Asset Classes With Less Economic Impact

Replacing the existing clear-and-convincing standard with a preponderance standard would reduce venture capital investment in many industries. Moreover, the reduction in opportunities for venture capital investment would redirect capital away from venture capital and towards other types of investments, such as hedge funds. Although those investments might provide similar returns for investors, they do not spur innovation, create jobs, or grow the economy in the ways that venture capital does.

Abandoning the clear-and-convincing standard, as Microsoft and its amici advocate, would increase the risk that *all* patents could be found invalid. Even if the increased risk is slight for worthy patents—say 10%—such risk will still have a dramatic impact on venture capital investment and the industries it supports. Because venture capital investment decisions are binary, weaker patents will not merely cause venture capitalists to invest commensurately fewer dollars in innovative companies. Nor will they simply invest in a few less companies. Instead, entire classes of companies will become unattractive investments, and entire industries will suffer. See Nelsen Testimony 32 (“The type of seed venture capital and pioneering work we do is already a tentative business, and small perturbations in

the system can have large effect in investment * * * .”). For precisely this reason, “a strong presumption of validity,” including the clear-and-convincing standard, “is crucial to the biotechnology industry,” Biotechnology Indus. Org., *Response of the Biotechnology Industry Organization to the Federal Trade Commission’s Patent System Reform Recommendations* 4 (2004), as well as to other sectors that are similarly dependent on innovative technology with high capital investment requirements, see, *e.g.*, Nelsen Testimony 31, 33 (noting the capital requirements for clean technology innovation). The position advocated by Microsoft and its amici would thus significantly reduce the venture capital available to entire sectors of the economy that have been responsible for much of the country’s economic growth.

Moreover, that capital will not simply be redirected to other start-ups with equal capacity to generate economic growth. To the extent that opportunities in industries less dependent on patented technology exist, venture capital is already being invested in those industries. Instead, fewer opportunities for the investment of venture capital in technology-based start-ups will lead capital to be allocated to other asset classes with less potential for the kind of explosive economic growth that venture capital investments provide.

III. MICROSOFT’S PROPOSED ALTERNATIVE OF A HYBRID SYSTEM USING TWO BURDENS OF PROOF WOULD HAVE THE SAME ADVERSE IMPACT ON VENTURE CAPITAL INVESTMENT

Microsoft and some of its amici argue that, even if the Court retains the long-standing rule that the presumption of validity must be overcome by clear-and-

convincing evidence, the Court should mandate the use of a preponderance standard in cases where the PTO did not consider the prior art or related facts on which a validity challenge is based. Pet. Br. 33–36; Apple Br. 3. Such a hybrid standard would do nothing to ameliorate the problem of added uncertainty for investors in technology-based start-ups. In some ways, a hybrid standard would be worse because it would spawn satellite litigation about the extent to which the facts at issue were considered by the PTO. Under the current law, District Courts have wide latitude to instruct the jury that it may be easier to carry the challenger’s burden of proof when the facts presented at trial were not before the PTO. A mandatory system of hybrid burdens of proof is neither necessary nor desirable.

A. Applying Two Different Burdens Of Proof For Patent Validity Issues Will Compound The Confusion And Uncertainty Of Patent Litigation

To assert patent invalidity at trial, patent challengers almost always rely upon uncited prior art—no matter how marginal its relevance—to assert that the PTO’s decision to issue the patent in suit was incorrect. According to one study, “most of the references that are argued at trial are uncited references; indeed, in the majority of prior art-related cases, *no cited art is relied upon at all.*” John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 233 (1998) (emphasis added); see also *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1549 (Fed. Cir. 1983) (“[T]here is virtually always ‘pertinent’ and ‘relevant’ art apparently unconsidered in the PTO and available to a patent challenger.”). As a result, the preponderance standard would apply to at

least a portion of every trial in which patent validity is contested.⁸

As a threshold matter, mandating the use of a hybrid standard of proof would give rise to a host of new questions, further exacerbating the uncertainty surrounding patent validity. First among those questions is what it would mean for an examiner to be deemed to have “considered” a reference of prior art.

Patent applications, when received by the PTO, are assigned to examining groups, in accordance with a classification system based on technical subject matter. Similarly, the prior art files of the PTO are organized by technical class. During the examination process, the Patent Examiner is required to identify the classes of art that were searched during the prosecution of the patent, as well as the particular art that was explicitly cited during prosecution by the Examiner or the inventor. It has long been recognized that a reference of prior art not explicitly cited in the file history may nevertheless have been considered, *e.g.*, in a class that was searched, but “cast aside as less pertinent than those

⁸ Additionally, as the American Intellectual Property Law Association has noted, adoption of a preponderance standard would have the greatest impact in cases involving “allegations that are easily fabricated and almost impossible to disprove.” Am. Intellectual Prop. Law Ass’n, *AIPLA Response to the October 2003 Federal Trade Commission Report* 6 (2004). Where a patent’s validity is challenged on the basis of a prior printed publication or prior patent, such evidence easily meets the clear-and-convincing standard. *Ibid.* Thus, adoption of a preponderance standard will have the greatest impact in cases where “uncorroborated oral testimony of prior uses or prior inventions” is used to argue invalidity. *Ibid.*

cited.” *Hobbs v. Atomic Energy Comm’n*, 451 F.2d 849, 863–864 (5th Cir. 1971) (Wisdom, J.).

In addition, the proposed hybrid standard does not account for uncited art that is cumulative to, or even less pertinent than, art that was cited by the Examiner or the inventor. A patent applicant is under no obligation to cite such art. 37 C.F.R 1.56(b). And the PTO’s Manual of Patent Examining Procedure explicitly instructs examiners *not* to cite every reference considered. *See* PTO, Manual of Patent Examining Procedure § 904.03 (explaining that “[t]he examiner is not called upon to cite *all* references that may be available, but only the best,” and that “[m]ultiplying references * * * adds to the burden and cost of prosecution and should therefore be avoided” (internal quotation marks omitted)).

Thus, to the extent that choosing the burden of proof depends upon resolution of disputed issues of fact about whether and to what extent certain information was considered by the PTO, mandating a hybrid burden of proof would make resolution of patent actions even more confusing and less predictable.

Even beyond what it means to “consider” a reference of prior art, additional questions abound. For example, what standard would apply when validity is challenged based on the combination of multiple references of prior art, some “considered” by the examiner and others not? What standard should jurors apply if they cannot agree on whether a particular reference of prior art was considered? These questions and others make it plain that application of a hybrid standard would be anything but a straightforward endeavor.

See Resp. Br. 45 (listing still further questions); IBM Br. 19 (same).

These new and complex questions would make it nearly impossible to predict even which standard should apply to a validity challenge, much less the ultimate outcome. As discussed *supra*, such uncertainty has enormous consequences for venture capital investment. The inability to predict whether a start-up company's patents will be upheld will cause venture capitalists to cease investing in those companies that rely most heavily on patented technology.

B. District Courts Already Have Latitude To Tailor Jury Instructions To Account For Uncited Art

In adopting the clear-and-convincing burden of proof, the Federal Circuit recognized that some patent actions do, in fact, involve art that was not before the PTO. In *American Hoist & Derrick v. Sowa & Sons, Inc.*, the court of appeals stated that: "the production of new prior art or other invalidating evidence not before the PTO * * * eliminate[s], or at least reduce[s], the element of deference due the PTO, thereby partially, if not wholly, discharging the attacker's burden, but neither shifting nor lightening it or changing the standard of proof." 725 F.2d 1350, 1360 (Fed. Cir.), cert. denied, 469 U.S. 821 (1984). The Federal Circuit has, on several occasions, approved jury instructions that include this further guidance. See, *e.g.*, *Mendenhall v. Cedarapids, Inc.*, 5 F.3d 1557, 1563–1564 (Fed. Cir. 1993) (approving instruction that directed the jury to consider whether evidence was presented to the PTO in determining what weight to give the PTO's findings).

Thus, to the extent that patent infringement trials truly present matters that were not before the PTO, district courts already have the tools to instruct the jury on the proper weight to accord such facts. See AIPLA Br. 34–36; IBM Br. 25–37. There is no reason to add further uncertainty and complication to patent litigation by adopting hybrid burdens of proof.

* * *

In sum, “[t]he success of the United States patent system is self-evident.” AIPLA Br. 38. Few can attest to the truth of that statement as strongly as the venture capital firms that have helped facilitate the most prolific period of innovation in modern history. Much of that innovation, and the accompanying economic growth, would not have been possible without venture capital investment in emerging companies. Altering the delicate balance of the patent system, by weakening the presumption of validity that attaches to issued patents, would reduce venture capital investment, harm the innovative industries it supports, and hinder economic growth.

CONCLUSION

This Court should reject petitioner's request to abandon the long-standing rule that the presumption of validity for issued patents must be overcome by clear-and-convincing evidence. Accordingly, the judgment of the court of appeals should be affirmed.

Respectfully submitted,

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ADDENDUM

List of Amici

Aberdare Ventures
Affinity Capital
Alta Partners
Arch Ventures
Asset Management Company
Atlas Ventures
Canaan Partners
Delphi Ventures
HLM Venture Partners
Kearny Venture Partners
Latterell Venture Partners
New Enterprise Associates
Prospect Venture Partners
Thomas, McNerney & Partners
U.S. Venture Partners
Venrock
Venture Investors, LLC
Versant Ventures
The Vertical Group