
DEBATE

AMERICA INVENTS, MORE OR LESS?

In September 2011, President Obama signed the most significant patent law overhaul in decades, the America Invents Act. The central change of the Act is to shift patent rights from the first to invent to the first to file, but the act also provides immunity for claims that an inventor deceived the Patent Office if the invention is not patentable. Professor Petherbridge and Professor Rantanen take on these changes, arguing that despite the stated goal of the Act, to stimulate innovation and job creation in the American economy, the Act may well do just the opposite. In response, Professor Kesan examines other sections of the Act, arguing that they provide more reason to be optimistic, and questioning whether the reasons Professors Petherbridge and Rantanen are pessimistic truly can be evaluated without better empirical evidence.

OPENING STATEMENT

*The America Invents Act Jeopardizes American Innovation*Jason Rantanen[†] & Lee Petherbridge^{††}

All rules are distortive. In perhaps no instance is this idea more true than when it comes to the patent system. In a very fundamental sense, the system is nothing more than a set of rules imposed for the very purpose of affecting the behavior of economic actors. Like so many other rules, it has a laudable purpose: the desire to efficiently stimulate invention and innovation.

The purpose of the newly enacted Leahy-Smith America Invents Act (AIA) is to rearrange the rules of the patent system and thus to create a new and different set of benefit and cost possibilities for economic actors. *See* Pub. L. No. 112-29, 125 Stat. 284 (2011) (to be codified in scattered sections of 35 U.S.C.). Unfortunately, the changes in benefits and costs worked by the AIA seem tailored to do two things: (1) discourage the patent-driven incentive to innovate, and (2) protect market power. This suggests the AIA may have a negative effect on American competitiveness and job creation, a disappointing outcome given that Congress's express purpose in enacting the law is to promote technological development and protect the rights of small businesses and inventors.

Assessing the impact of a substantially new legal framework for innovation is, of course, a difficult and complex task and is, perhaps, ultimately an empirical one. Conceptual analyses are nonetheless important and possible. Below, we consider the marginal impact of the AIA in the context of specific instances in which it departs from prior law.

For over two hundred years, American patent law has given priority of right to those who were first in time to an invention. The centerpiece of the AIA eviscerates this tradition, installing in its stead a general rule under which patent rights are awarded to the "first inventor to file" a patent application, no matter whether he is the second, third, or tenth inventor. AIA § 3, 35 U.S.C.A. § 100 (West 2011). The best empirical study, which analyzed similar changes in the Canadian patent system and enjoys considerable theoretical support, indicates that such a change may discourage small inventors from inventing and

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innovating. See David S. Abrams & R. Polk Wagner, *Priority Rules: An Empirical Exploration of First-to-Invent Versus First-to-File* (Univ. of Pa., Inst. for Law & Econ. Research Paper No. 11-29, 2011), available at <http://ssrn.com/abstract=1883821>. Thus, even leaving aside the debate over the importance of small inventors' contributions relative to those of large-firm inventors, the AIA can be expected to reduce the number of small inventors who invent and innovate because of patent law. If, moreover, one believes that small inventors are especially important to the patent system, then the harm to innovation wrought by this provision is further amplified. Finally, it must be said that by moving to disfavor small inventors, the AIA has coldly set aside the romantic inspiration of the patent system and given a blow to the psychology of American innovation.

Another change that carries the potential to reduce patent-encouraged innovation is the AIA's supplemental examination provision, which immunizes patents from charges that applicants deceived the Patent Office into allowing patents that do not satisfy the requirements for patentability. AIA § 12, 35 U.S.C.A § 257. Thus, in view of the AIA, a firm might obtain a patent containing claims it *knows or strongly suspects* are unpatentable by not providing the Patent Office with the facts giving rise to that knowledge or suspicion. Such patents play little role in incentivizing invention, as according to the rules of patentability there is no "invention." See 35 U.S.C. §§ 102–103 (2006). Nonetheless, a competitor may assert such patents against firms that actually invested in invention and innovation and that have dutifully obtained patents under the correct standards for patentability. Even if an innovator is not put off from innovating by the potential of unjustifiable strike suits—as some may be—the increase in low-quality patents encouraged by the AIA, particularly those that are directed to merely trivial, i.e., obvious, advances over the prior art, will make it more likely that patents for very modest improvements will have to be licensed in order to bring products to market. Because in such cases a license will divert some amount of rent from the innovator to those who hold patents to "improvements" that never should have issued, the incentive of a patent is reduced for the innovator. In this way, the AIA may make the costs of innovating exceed the expected benefits for at least a set of innovators who, under the old law, would have continued to invest in innovation. The result is that some innovators will leave the patent system, perhaps ceasing to innovate altogether.

Patent rights have traditionally encompassed infringing activity even if the infringing technology was independently developed and

even if the infringing activity started before an application for a patent was filed. The AIA severely limits these ancient rules for an important species of patents, those directed at manufacturing and commercial processes, by making prior commercial use of such inventions in the United States a defense to patent infringement. The AIA thus directly reduces the patent incentive to innovate in the field of manufacturing and commercial processes because it diminishes the possibility that those who innovate and disclose new and useful commercial processes will be able to recoup their investments.

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The above changes to patent law, and their potential negative effects on innovation, are intertwined with a more fundamental shift underlying the AIA: a preference for firms with greater market power, as opposed to those who would challenge that market power through innovation.

The evidence for this in the AIA is rampant. The first-to-file provisions make resources matter more than they used to when it comes to establishing priority to invention. The patent laws are complicated, and properly navigating them to get a valuable patent can be quite costly. At the margins, the AIA favors to a greater degree than the prior patent law those firms with more money and more skilled and knowledgeable lawyers. These firms, even if they are second or third in time to an invention, might still win the race to the Patent Office simply because they can draft and file applications more quickly. A firm with resources—and a large potential book of business—can get its patent applications drafted more quickly than a firm without them.

Also, by reducing the patent-quality contributions of patent applicants, the supplemental examination mechanism can be predicted to encourage a greater belief that patents are generally less likely to be valid than they were before. If competitors have less respect for patents, then they can be expected to either refuse to deal or demand unreasonably low royalty rates more often. Patentees, to recoup investment, may be more frequently forced to turn to litigation. When they do, the litigation will be affected by how evenly matched the patentee and the alleged infringer are in terms of resources. In particular, firms with large war chests, and with able lawyers at their command, should generally be expected to have a leg up on patentees who are substantially less resourced.

Prior user rights, too, advantage those with market power and disadvantage those seeking to compete with market power—especially pure inventors. Prior user rights represent a shift away from the incentive mechanism of patents to encourage innovation, and toward the incentive mechanism of trade secret protection, especially for those inventions that are inherently non-self-disclosing. Firms with established market power—manufacturers, for example—benefit from this shift because they are able to monetize such inventions directly through internal application. On the other hand, firms that lack such market power, or pure inventors who specialize in inventing as opposed to manufacturing, are less able to monetize inventions through trade secrecy; often, they monetize the invention by licensing or selling it to an established firm, a transaction that is complicated by the absence of strong patent rights. The net result is a reduced incentive for small-market participants and pure inventors to develop the types of inventions that are the subject of the AIA's prior user rights.

Regardless of how it is accomplished, each shift favoring market power represents a move away from the promotion of innovation and towards technological stagnancy. Innovation is the inextricable counterpoint to competition. It both allows smaller participants in the market to attack market power, thus encouraging competition, and is itself encouraged by the existence of competition among market participants.

The legislative determination of the AIA, however, is that market power is more innovative than competition. While there is a school of economic thought that accepts this proposition, viz., that market power will use its excess profits to innovate, there are many who take a different view. Innovation is needed to promote creative destruction—the creation, development, and decline of firm after firm. Firms with market power, however, have little to no need for innovation; indeed, their interest is largely in maintaining the status quo rather than disturbing it through innovation. These firms reap the greatest rewards if patents are weak and of low quality: patents that can be acquired at a dime a dozen, and which are primarily of value in large numbers. Under such circumstances, even if a small participant in the market should invest in innovation, the firm with market power can quickly copy the invention, appropriating its value through the application of its superior resources. The cycle of creative destruction is broken; stagnancy and the reduction of innovation is the portended result.

REBUTTAL

*The Potential to Make Progress*Jay P. Kesan[†]

Professors Rantanen and Petherbridge start with an instrumentalist view of the patent system, stating that it seeks to “stimulate invention and innovation.” While the patent system may be justified on many grounds, for the purposes of this debate, I will assume that this is the main purpose of the patent system. One key issue, then, is whether the America Invents Act (AIA) will stimulate invention and innovation. *See* Pub. L. No. 112-29, 125 Stat. 284 (2011) (to be codified in scattered sections of 35 U.S.C.).

The AIA is not what patent law scholars might create as a doctrinal or patent policy matter if writing on a clean slate. In keeping with legislation in general, and particularly in the intellectual property arena, the AIA reflects the preferences of the major stakeholders in the patent system and their bargaining power. As such, there are aspects to the AIA that might be improved, and I agree with Professors Rantanen and Petherbridge that many of the issues they raise can only be addressed by more careful empirical work in the coming years. But there are also other features of the AIA that can be solidly justified and that provide good reason to be optimistic about the coming years.

I. GRANTING PATENT RIGHTS COMMENSURATE WITH INNOVATION
HELPS PATENTEES, PARTICULARLY SMALL INVENTORS

The AIA provides new mechanisms for other people who are similarly situated to the inventors and equally knowledgeable (e.g., competitors, improvers, and the like) to weigh in on the decision to grant a patent. Specifically, there is a new post-grant review mechanism, *see* AIA § 6, 35 U.S.C.A. §§ 321–329 (West 2011); a new inter partes review mechanism, which modifies the previous inter partes reexamination, *see id.*, 35 U.S.C.A. §§ 311–319; and a mechanism to bring prior art to the attention of the Patent Office together with an explanation, *see id.*, 35 U.S.C.A. § 301.

These mechanisms reduce the informational asymmetry between the patentee and the Patent Office, and reduce the incentives for stra-

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tegic behavior by patentees who may want to take advantage of the constraints faced by examiners at the Patent Office. By bringing people with knowledge about the invention at issue into the process, the AIA increases the likelihood that the patent claims that are granted are commensurate with innovation. Significantly, these patent validity challenges at the Patent Office are relatively inexpensive compared to litigation. This reduction in the transactions costs of challenging issued patents is an important statutory innovation in the AIA.

From the patentee's perspective, a successful post-grant review provides one of the best indicators of value for all actors who may be interested in or affected by an issued patent. Such an early indication of value is particularly useful for individuals, start-up companies, and small-to-medium enterprises (SMEs), and it will help attract market attention. By way of comparison, surviving a patent opposition in Europe is considered to be one of the best indicators of economic value in an issued patent.

By creating opportunities to grant proven, well-defined property rights, the AIA improves the patent system and how it is perceived. By providing mechanisms to obtain proven patent rights that are less susceptible to subsequent invalidation in court, the AIA benefits SMEs and start-up companies even more than large companies that have the resources to engage in protracted litigation.

At the same time, having survived post-grant review, these patents obtained by small companies might be attractive for contingency fee lawyers, who may be more willing to absorb litigation costs in an effort to enforce these patents in court. Relatedly, it might also be easier for small innovators to obtain third-party financing to enforce patents that have survived a post-issuance challenge in the Patent Office. On the other hand, if weak patent claims are initially granted, then they may also be redefined, narrowed, or rejected early in the process.

II. SMALL INVENTORS, UNIVERSITIES, AND SMEs MAY BE BENEFITTED

The U.S. market share in the world market for many technology products and services is less than fifty percent. *See, e.g.,* Melly Alazraki, *Global Pharmaceutical Sales Expected to Rise to \$880 Billion in 2011*, DAILY FIN. (Oct. 7, 2010), <http://www.dailyfinance.com/2010/10/-07/global-pharmaceutical-sales-expected-to-rise-to-880-billion-in>. By bringing us in line with the rest of the world on many fronts, including the modified first-to-file system, the AIA is good for small inventors, universities, SMEs, and large companies. Small entities will benefit from learning

to operate in a first-to-file world and, in the process, become more familiar with patent systems worldwide. This will, over time, create learning and experience, and will reduce some foreign transactions costs associated with procuring overseas patent rights.

It is becoming increasingly true that the world market for technological goods and services is expanding more rapidly outside the United States. All of the recent foreign litigation involving wireless handsets in Europe and elsewhere indicates the importance of foreign markets. The pharmaceutical industry has always understood the importance of overseas patent rights, and small companies and universities engaged in life science-related patenting are keen on seeking foreign patent rights. The AIA facilitates foreign patenting and the ability to engage competitively in foreign markets by harmonizing us with other overseas patent systems.

Knowing that small businesses can compete more effectively on a global stage under the AIA may help them become more attractive to angel investors, venture capitalists, and other financiers. Foreign angel investors and venture capital investment in the United States for start-up entities might increase as patent rules get harmonized and foreign markets are more accessible to small entities.

It is not the case that small inventors were relying predominantly on the first-to-invent system that existed prior to the AIA. For instance, the rules of patent interference also favored large entities, such as the emphasis on the requirements for corroboration of all relevant inventive dates and the need to document diligence. While it is attractive to think of the solo, industrious, and small inventor filing a patent, the overwhelming majority of patent filings before the AIA did not involve these situations. *See* Tim Lemke, *Invention + Market Savvy = Successful Product*, WASH. TIMES, Apr. 16, 2001, at D8. Even in those situations, the desire to preserve the option of foreign patenting meant that even small companies and solo inventors operated under first-to-file rules.

The AIA also reduces some uncertainties and creates other bright-line rules in significant and important ways. For instance, instead of losing an entire patent and related families of patents, through a possible finding of inequitable conduct, patentees can purge or cure these circumstances by fixing some of these errors through the AIA's supplemental examination provision. *See* AIA § 12, 35 U.S.C.A. § 257. At the same time, the AIA maintains a clear one-year grace period for filing a patent application following public disclosure by the patentee. *See id.* § 3, 35 U.S.C.A. § 102. This rule

will, of course, benefit entities such as research universities that are active patentees. The AIA has also eliminated the one-year grace period associated with third-party sales and public uses.

Along with the passage of the AIA, we might see other related incentives for small inventors to engage in foreign patenting. The Patent Office recently conducted hearings on foreign patenting by small entities and on how these entities might be incentivized to procure valuable patent rights abroad. See *Hearing on the Study of International Patent Protection for Small Businesses Before the U.S. Patent & Trademark Office* (Nov. 1, 2011) (statement of Prof. Jay P. Kesan), available at http://www.uspto.gov/aia_implementation/ipp-2011oct31-kesan-jay.pdf. Perhaps we will see additional possibilities, such as using a portion of Small Business Innovation Research grants coordinated by the Small Business Administration to pay for patenting costs in the United States and abroad.

I am also not sure how much we can conclude from the one study of the Canadian patent system cited by Professors Rantanen and Petherbridge. We have a more vibrant and aggressive small inventor community than anywhere else in the world, and it is not certain that we will see the same reduction in patent filings by small entities in the United States as was seen in Canada. In short, we need to see how the AIA will play out in the coming years with respect to patenting activity by small entities.

It is also not clear how the prior user rights in manufacturing and commercial processes will play out. There are other countries that have recognized prior user rights, but the impact of these rights has been poorly studied.

III. IN THE PAST, THE PATENT SYSTEM, AND INDEED, THE ENTIRE WORLD OF CIVIL LITIGATION FAVORS LARGE COMPANIES WITH MORE RESOURCES, AND THE AIA CANNOT CHANGE THAT

Large companies can always impose costs on small company litigants and drag out litigation. Our discovery and motion practice system, together with the new emphasis on e-discovery, ensures that this is likely to be the case for the foreseeable future.

The threshold requirements for initiating a post-grant review and/or the inter partes review under the AIA are stringent, and the estoppel provisions in both situations are significant. This reduces the likelihood that these mechanisms will be used to simply delay and

harass patentees, and to impose unnecessary costs on patentees who are small companies.

There is much to be done empirically as the AIA—the most significant patent reform in fifty-nine years—goes into effect. The patent system is a two-stage bargain involving the Patent Office in the first stage and the federal courts in the second stage. Shifting the emphasis to the Patent Office, particularly with respect to matters of patent validity, has the possibility of changing the overall patent system, as we know it, very significantly. Specifically, the possible shift in patent validity challenges to administrative mechanisms in the Patent Office, instead of resorting just to the courts, holds the possibility of reducing litigation costs. But we have to wait and see how this plays out.

It is certainly the case that large companies can and do file more patents, and have the resources to do so. But the new reduced fees for micro entities help some small companies and inventors. *See, e.g.*, AIA § 10, 35 U.S.C.A. § 123. The creation of the micro-entity status particularly helps universities that have been engines of innovation, creating entirely new market segments and new industries with their pioneering work.

As mentioned above, patents that survive post-grant review might also be very attractive for enforcement in court through contingency fee representation, a situation that would clearly benefit small inventors.

IV. THE IMPACT OF THE AIA ON BOTH SMALL AND LARGE COMPANIES IS SIGNIFICANT, BUT THE TRAJECTORY OF THESE CHANGES IS DIFFICULT TO PREDICT

There are too many moving parts in the AIA to predict winners and losers in patent litigation. At the outset, patentees and alleged infringers/patent challengers are not worlds apart in the patent system, as labor and management are. The same entity may be both a patentee and an alleged infringer in different lawsuits.

The AIA offers new possibilities for both patentees and patent infringers/challengers. Patentees may benefit from new provisions that: permit supplemental examination to correct inadvertent or other errors in patent prosecution, *see id.* § 12, 35 U.S.C.A. § 257; increase the standard for Patent Office review in inter partes review proceedings, together with an estoppel effect, *see id.* § 6, 35 U.S.C.A. §§ 311–319; eliminate best mode–related counterclaims in litigation, *see id.* § 15, 35 U.S.C.A. § 282; and restrict false patent marking claims, *see id.* § 16, 35 U.S.C.A. § 292.

Alleged infringers and patent challengers may benefit from new provisions that: limit joinder of multiple defendants in a single lawsuit, *see id.* § 19, 35 U.S.C.A. § 299; provide mechanisms to submit prior art for pending patent applications, *see id.* § 6, 35 U.S.C.A. § 301; create new mechanisms for challenging issued patents in the Patent Office, *see id.*, 35 U.S.C.A. §§ 311–329; create an expanded, new defense of prior commercial use, *see id.* § 5, 35 U.S.C.A. § 273; and limit the evidence that may be relied on for proving willful infringement, *see id.* § 17, 35 U.S.C.A. § 298.

With so many significant changes being introduced, it is difficult to abstract away and predict the impact of the AIA on either small or large companies and on patentees or alleged infringers.

CLOSING STATEMENT

*The America Invents Act Jeopardizes American Innovation*Jason Rantanen and Lee Petherbridge[†]

INTRODUCTION

In his Rebuttal, Professor Kesan takes the overarching position that the relationship between the existing patent system and the new patent law is so complicated that a conceptual analysis centered on economic instrumentalism is not really worth the candle. Besides providing a remarkably tepid defense of the merits of the America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284 (2011) (to be codified in scattered sections of 35 U.S.C.), that position—if correct—undercuts a substantial part of forty or more years' worth of legal and economic scholarship directed to patent law and policy.

Perhaps our conclusion might be different if Congress applied a different form of reasoning to justify its new law, or if it thought the AIA's effect would be uncertain. Yet, the sense of Congress in enacting the AIA is decidedly instrumentalist: “[T]he patent system should promote industries to continue to develop new technologies that spur growth and create jobs across the country which includes protecting the rights of small businesses and inventors from predatory behavior that could result in the cutting off of innovation.” *Id.* § 30, 125 Stat. at 339. Nor is there any evidence in the AIA that Congress is concerned that, with “so many significant changes being introduced,” it would be “difficult to abstract away and predict the impact of the AIA on either small or large companies and on patentees or alleged infringers.” Rather, Congress apparently thinks that the AIA will have an innovation and job-creating effect, and that the rights of small businesses and inventors will be protected from predatory behavior that could cause them to cease innovating. Using the tools and premises Congress itself used to justify the AIA is, we think, more than appropriate.

Nor do we think the fact that the AIA introduces many changes to the patent law forecloses the form of analysis used in this debate. Indeed, we think this form is particularly important given Professor

[†] This brings to an end our response to Professor Kesan, and closes our contribution to this debate. We thus take this opportunity to thank Professor Kesan and the editors at *PENNumbra* for working so diligently to bring the public this early assessment of the America Invents Act.

Kesan's explanation that the AIA reflects "the preferences of the major stakeholders in the patent system and their bargaining power." If on balance the underlying premise of the AIA is predominantly public choice, and *not* public interest, then perhaps we should not be overly surprised to find it favors corporate interests with substantial market power. Nor should we be particularly surprised to find provisions that offer little more than lip service to the interests that are likely to be trampled by the legislation. *See, e.g., id.* § 28, 125 Stat. at 339 (establishing an ombudsman program for small business concerns); *id.* § 31, 125 Stat. at 339-40 (requiring a study on international patent protection for small businesses); *see also id.* § 10, 35 U.S.C.A. 123 (West 2011) (establishing a micro-entity fee status). To be clear, a public choice-defined AIA is not flawed *per se*. But given that the fundamental policy underlying the patent law itself is decidedly public interest, a public choice defined-AIA deserves serious scrutiny. And a good place to start is with those provisions that are at the core of the legislation and that appear to have the most substantial systematic consequences.

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In our Opening Statement, we relied on core provisions of the AIA to argue that what Congress enacted seems well tailored to do two things: (1) discourage the patent-given incentive to innovate and (2) protect market power. Both would seem to jeopardize more than help American innovation and job creation. And neither would seem to protect, any more than the pre-AIA patent law, the ability of small businesses and small inventors to compete in the marketplace.

Professor Kesan resists our argument by pointing to the post-grant review and supplemental examination provisions, suggesting that such provisions should result in a higher level of patent quality, and thus benefit patentees—particularly small inventors. But it is unlikely that the post-grant review provisions will have any serious impact on patent quality. Worse, there is good reason to think that these provisions will harm rather than benefit the inventors and small businesses about which Professor Kesan is concerned.

I. POST-GRANT REVIEW AND PATENT QUALITY

The legal determination of primary importance to most patents' economic significance is the one the Patent Office makes when it decides to allow the patent to issue. Conventional estimates hold that

about only one percent of patents are litigated,¹ while the number of patents for which reexamination has been requested is even smaller.² In contrast, the percentage of issued patents that are licensed might range from roughly five to twenty-nine percent depending on the circumstances,³ while as many as fifty percent of patents may be commercialized in a broader sense.⁴ These patent system metrics suggest that the overwhelming majority of patents that are monetized, are capable of being monetized, or have a monetizing effect by deterring competition and improving the pricing position of the patentee are not litigated patents or post-grant reviewed patents. They are, instead, regular old issued patents.

As post-grant review provisions are not directed to the decision to issue a patent in the first instance, they will likely have little impact on patent quality as a whole. Notably, Professor Kesan makes no claim that the AIA's post-grant review provisions will somehow encourage patent applicants to take on the cost of improving the quality of the Patent Office's decision to issue a patent in the first instance. Even assuming, therefore, that post-grant review produces a marginal improvement in the quality of a patent subjected to it, the process will affect only the reviewed patent, not the quality of issued patents as a whole.

Moreover, such second-review patents should be rare for the reasons Professor Kesan himself points out. Access to the more rigorous forms of the procedure comes with stringent threshold requirements and estoppel provisions. The pre-AIA law had similarly limited post-grant review provisions, and experience has shown that they are not likely to be used much. After all, what potential infringement defend-

¹ See, e.g., Adam B. Jaffe, *The U.S. Patent System in Transition: Policy Innovation and the Innovation Process*, 29 RES. POL'Y 531, 548 (2000).

² See *Ex Parte Reexamination Filing Data*, U.S. PATENT AND TRADEMARK OFF., http://www.uspto.gov/patents/EP_quarterly_report_Sept_2011.pdf (last visited Jan. 15, 2012) (reporting that 780 ex parte reexamination requests were filed in 2010); *Inter Partes Reexamination Filing Data*, U.S. PATENT AND TRADEMARK OFF., http://www.uspto.gov/patents/IP_quarterly_report_September_2011.pdf (last visited Jan. 15, 2012) (reporting that 281 inter partes reexamination requests were filed in 2010); see also *U.S. Patent Statistics Chart, Calendar Years 1963–2010*, U.S. PATENT AND TRADEMARK OFF., http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm (last visited Jan. 15, 2012) (reporting that the Patent Office issued 219,614 utility patents in 2010).

³ See, e.g., Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1507 (2001); Eugen Mattes et al., *Surveying Inventors Listed on Patents to Investigate Determinants of Innovation*, 69 SCIENTOMETRICS 475, 484 tbl.4. (2006); Kazuyuki Motohashi, *Licensing or Not Licensing? An Empirical Analysis of the Strategic Use of Patents by Japanese Firms*, 37 RES. POL'Y 1548, 1551 tbl.1 (2008).

⁴ See, e.g., Ted Sichelman, *Commercializing Patents*, 62 STAN. L. REV. 341, 362-63 & n.121 (2010).

ant wants to spend its litigation defenses at the Patent Office—an agency that is subject to well-recognized externalities that favor sustaining patent claims—when it can preserve those defenses for presentation to a judicial decisionmaker who is likely to be much more chary about ruling in favor of the patent holder? In short, using post-grant review to snipe the occasional patent, or adding a few “gold plated” patents to the patent system, is not cause to believe that the quality of most, or even many, patents will be improved. Nor is it cause to believe that the AIA will produce patents that behave any more like “property” than patents have before.

That is the relatively small upside. The downside—especially for small businesses and inventors—may be much greater. One of the central policy purposes of post-grant review mechanisms, especially ones that empower potential infringers, is to make patent enforcement more arduous, expensive, and difficult for most patentees. After the AIA, a patentee is more likely to have to endure a second patent examination before it can monetize an issued patent. For many small businesses and inventors, a second patent examination may be one patent examination too many. Due to mismatched resources and the ever-present possibility of Patent Office error, deserving inventors might suffer an adverse decision on the second patent examination. And some small businesses and inventors may simply not—perhaps due to limited resources—be able to afford to wait to have a patent examined twice before being able to enforce it. Thus, while it may be true that some small fraction of small businesses and inventors benefit from the “gold plating” offered by post-grant review provisions, it is quite probable that for many small businesses and inventors, post-grant review provisions will operate more as a patent system—use tax, adding to the cost and complexity of obtaining an enforceable patent. If so, perhaps the main consequence of the provisions will be to provide those with market power better means to clip the wings of up-and-coming competitors and to appropriate the value of their innovations. If so, the provisions will reduce, rather than promote, the small business and inventor participation that Professor Kesan emphasizes to support the AIA.

Underlying these expected effects is the concern that the AIA carries the potential to push down patent quality. In his Rebuttal, Professor Kesan suggests that the post-grant review mechanisms in the AIA operate to shift decisionmaking about patent validity away from the courts and to the Patent Office. We identify a different shift, however: a move away from serious decisionmaking about patent validity during

the initial examination of a patent and to various forms of post-grant examination. In this light, we are skeptical of the argument that these mechanisms will improve the quality of *issued* patents, i.e., the patents that matter in most instances. This concern is especially strong when it comes to the AIA's supplemental examination provisions, which are likely to have a much greater systemic—and deleterious—effect on patent quality. *See* AIA § 12, 35 U.S.C.A. § 257.

In explaining this point, we will not here dispute Professor Kesan's contention that the AIA clarifies the law around inequitable conduct, but will instead focus on where our views diverge from his on whether this is necessarily a good thing. The supplemental examination provisions create a patent amnesty program. *See* Jason Rantanen & Lee Petherbridge, Commentary, *Toward a System of Invention Registration: The Leahy-Smith America Invents Act*, 110 MICH. L. REV. FIRST IMPRESSIONS 24, 25 (2011), <http://www.michiganlawreview.org/assets/fi/110/rantanenpetherbridge.pdf>. They permit applicants to obtain patents despite conduct that would be abhorrent under traditional understandings of a patent applicant's obligation to be equitable in dealing with the public and with competitors, and permit them, as Representative Henry Waxman put it, to play a "get out of jail free card" if strategy dictates. 157 CONG. REC. E1208 (daily ed. June 24, 2011) (statement of Rep. Henry A. Waxman). The "card" is a supplemental examination request, and assuming it is played properly, most patent applicants should have the opportunity to immunize all but the most egregious misconduct before a competitor ever has an opportunity to learn of it.

The supplemental examination provisions of the AIA will not help patents work more like property. As we have explained elsewhere, the AIA's supplemental examination provisions reduce marginal applicants' incentives to take on the costs of patent quality, and increase such applicants' incentives to place more of the costs of patent quality on the Patent Office, competitors, and the public. *See* Rantanen & Petherbridge, *supra*, at 30-31. The AIA thus encourages informational asymmetry that is likely to reduce the quality of the Patent Office's decisionmaking on the point of whether to issue a patent. An increase in low-quality patents will encourage the belief that the marginal patent is less likely than before to be valid. A greater systemic belief that patents are not likely to be valid can be expected to encourage litigation, as opposed to licensing, and to raise the cost of patent monetization and enforcement. The more costly patent enforcement is made to be, the more likely market power is favored.

In this post-AIA world, occasionally relevant post-grant review procedures have almost no power to stem the impact of the supplemental examination provisions, which can be expected to affect a much broader body of patents. The firms that should be expected to succeed in this environment are those with greater market power: those that can pay the cost of enforcement and those with the resources to acquire large numbers of low-quality patents. They are likely to be neither small businesses and small inventors nor, as Professor Kesan suggests, universities, as they lack unlimited budgets for patent acquisition and enforcement.

II. THE AIA AND INTERNATIONAL HARMONIZATION

Professor Kesan offers a second justification for the AIA: small businesses, inventors, and universities should all benefit from the AIA because it brings “us in line with the rest of the world on many fronts” and will teach such inventors how “to operate in a first-to-file world.” It is hard to see how the AIA works the claimed benefit.

At the outset, while we are prepared to assume for the purpose of this response that a first-to-file system is superior to a first-to-invent system in terms of how well it induces invention and innovation, as we commented in our Opening Statement, we think that there are merits to the existing first-to-invent system and that such a choice could itself be the subject of a serious debate.

With that assumption in mind, however, two key questions arise. First, does the move to the AIA’s first-to-file regime offer small businesses, inventors, and universities anything they did not have before? And, second, do any such benefits adequately compensate these entities for patents that they can no longer obtain and enforce in the United States because of the post-grant review and supplemental examination mechanisms? The answer to both questions is likely to be no.

However the issue is sliced, the most relevant rent-seeking administrative costs for most U.S. inventors that will use a patent system are the costs of U.S. patents, not the costs of foreign patents. Small innovators would love to have access to a market share that is, as Professor Kesan explains, nearly fifty percent of the world market simply by filing a patent application for a single country. Indeed, most foreign markets do not approach the U.S. market in terms of economic significance, and much foreign patenting probably represents diminished marginal returns for innovators. Put simply, it is the logistical, regulatory, and other costs associated with doing business in a for-

eign country, relative to smaller patent-driven returns, that are likely the main reasons why small businesses and inventors do not seek large numbers of foreign patents. It is not a lack of international harmonization of the rules of priority.

Still, if the installation of a first-to-file system in the United States truly harmonized patent acquisition requirements in a way that reduced the cost and complexity of foreign patenting, then perhaps Professor Kesan's argument might have better purchase. But before the AIA, small businesses, inventors, and universities already knew that they needed to be first to file "to preserve the option of foreign patenting." The AIA does nothing to change this. More importantly, the AIA has not harmonized U.S. patentability rules with those of foreign nations, *even* when it comes to the first-to-file provisions. The AIA-imposed system is not a first-to-file system like that used in other parts of the world. It is more technically a first-to-file *or* first-to-publicly-disclose system. In addition, the AIA first-to-file system comes with a grace period of up to one year depending on the applicant's own disclosure. *See* AIA § 3, 35 U.S.C.A. § 102. The European first-to-file system does not have the public disclosure provisions and does not include a parallel grace period. *See* European Patent Convention art. 55, Oct. 5, 1973, 13 I.L.M. 268. Thus, a U.S. inventor who discloses under the American first-to-file system, thinking that it creates a safe harbor with respect to validity, may have just eliminated his or her ability to obtain a patent abroad. Sophisticated entities have long had no difficulty operating in a system where U.S. priority law differs from that of other countries, and they will likely remain capable of navigating foreign systems. Small inventors, however, should be no less prone to making errors fatal to foreign patentability than they were before the enactment of the AIA, especially if the AIA is marketed as having "harmonized" U.S. and foreign patent law.

Even if one were to overlook the fact that the AIA does not really harmonize much U.S. and foreign priority law, the practical reality for those who would seek foreign patents after the AIA is little different than it was before. This is so because other substantive differences still remain between U.S. patent law and the various national patent laws of the myriad foreign jurisdictions in which U.S. inventors might desire to patent. *See, e.g., id.* art. 52-57 (showing some of the different patentability requirements in Europe). At bottom, the AIA thus does next to nothing in terms of "harmonization" that facilitates foreign patenting for small businesses, inventors, and universities. If U.S. inventors want quality overseas patent protection, then they will still face high adminis-

trative costs, and will likely still have to pay substantial legal fees to specialized counsel knowledgeable about a specific country's patent laws.

CLOSING STATEMENT

*Not Yet Time for a Verdict*Jay P. Kesan[†]

I. THE AIA, INNOVATION, AND PATENT QUALITY

It is premature to conclude that the America Invents Act (AIA) will hurt innovation. The aspirations of the AIA are well founded and well supported by sound economic theory. The AIA seeks to grant patent rights truly commensurate with the underlying innovation, rights that can withstand scrutiny by those knowledgeable in the relevant technology. This scrutiny can be obtained cheaply, unlike through costly litigation, and in the process, the AIA provides clear and early indications of patent value that can facilitate patent transactions. In other words, the AIA seeks to further innovation by granting well-defined property rights, while minimizing the deleterious effects of overbroad property rights; reducing transactions costs; minimizing strategic and opportunistic behavior that capitalizes on the high cost of patent invalidation; and facilitating market transactions based on tested indications of value.

The details in the AIA are encouraging and will help foster innovation by granting meaningful patent rights. For example, the one-year time limit to conclude post-grant review, *see* AIA § 3, 35 U.S.C.A. § 102 (West 2011), the use of administrative patent judges, *see id.* § 7, 35 U.S.C.A. § 6, the possibility of discovery, *see id.* § 6, 35 U.S.C.A. §§ 316, 326, and the stay in the district court proceedings, *see id.*, 35 U.S.C.A. §§ 315, 325, are examples of details in the post-grant review process that are helpful in making this process both timely and effective.

While the AIA can be justified by sound economic thinking, the details of the Patent Office's implementation of the AIA are important. Some of the benefits of the AIA can be reduced by ineffective implementation, and the patent community eagerly awaits the new Patent Office rules. It is imperative that we have an effective, low-cost post-grant review process that can be concluded in a timely fashion. A timely process with low transaction costs for challenging the validity of patent

[†] I want to thank both Professor Rantanen and Professor Petherbridge for a lively and stimulating exchange of ideas on the current state of the AIA. I would also like to thank the editors at *PENNumbra* for their hard work and diligent efforts to make this debate possible.

claims is critical. If the post-grant review process is bogged down by extensive discovery and lasts as long as current inter partes reexaminations, then the benefits of this process will be undermined. In this respect, it is too early to tell how the AIA will unfold. In coming years, it may also be that some aspects of the AIA, such as the estoppel effect in post-grant and inter partes review, may have to be revisited and tweaked, but the overall approach is sound.

There are good reasons to conclude that post-grant review and inter partes review will improve patent quality. As the costs of mounting a patent challenge are reduced significantly and the process is concluded within a year of its initiation, it stands to reason that the percentage of issued patents that will be challenged will increase. It is meaningless to look at the numbers associated with the current inter partes reexamination process, which takes several years—currently more than thirty-six months—to bring to conclusion, or to look at the enormously expensive patent litigation system in the courts today. See *Inter Partes Reexamination Filing Data*, USPTO.GOV, http://www.uspto.gov/patents/IP_quarterly_report_September_2011.pdf (last visited Jan. 2, 2012). This system, which did not have an effective low-cost mechanism to challenge patents, should now be in the past. It is more meaningful to look at the percentage of issued patents that are opposed in Europe, which stands around five percent.

Looking at the gross number of issued patents that are litigated or licensed can be misleading in another respect. It is the percentage of *valuable* patents (i.e., patents that are or likely to be embodied in goods and services), and not the total number of issued patents, that can be challenged under post-grant review that is significant. If five to twenty-nine percent of issued patents are licensed, as indicated by Professors Rantanen and Petherbridge, and if five percent of issued patents are subject to post-grant review since these patents are viewed as significant by competitors, then the AIA has succeeded in ensuring that licensees have an effective challenge mechanism to ensure that a very large percentage of patent rights, which may very well be the subject of future licenses, are carefully evaluated post-issuance.

Moreover, the knowledge that it is increasingly likely that one's patent rights may be challenged can have important strategic benefits and promote positive modifications in filing behavior. Low-cost patent challenges can change the calculus. Patentees will not be incentivized to seek overbroad patent rights aggressively at the outset. Instead, patentees are more likely to present claims that can be issued through normal prosecution and also to withstand a post-grant chal-

lenge, if one is mounted. In addition, by obtaining issued patent claims that are seen as likely to withstand a challenge, patentees ensure that they will be able to attract financial resources to fight potential challengers. Finally, once the patent validity issues are contested and resolved in a cost-effective manner in the Patent Office, the parties are left with only the issues of infringement and remedies in court, creating the possibility of a cheaper and quicker resolution of the dispute.

One related point with respect to the political economy of the patent system and the passage of the AIA: there is compelling work from scholars such as Professor Jessica Litman showing that copyright legislation reflects the preferences of significant and powerful stakeholders in this intellectual property system. *See generally* JESSICA LITMAN, DIGITAL COPYRIGHT 192 (2001). While the stakeholders in the patent system may be different from those in the copyright world, patent legislation is not an exception in this regard. *See, e.g.*, Jay P. Kesan & Andres A. Gallo, *The Political Economy of the Patent System*, 87 N.C. L. REV. 1341, 1376-90 (2009) (demonstrating this point empirically). That said, there is no evidence that the public interest is being “trampled” or offered “little more than lip service” by the AIA. On the contrary, it is in the interest of the general public not to have overbroad patent rights since the costs associated with such rights are passed on and ultimately borne by consumers and the general public. As another example, universities, a group that is regarded as having lower bargaining power, have benefited from both the AIA’s modified first-to-file system that preserves priority for first public disclosure and the significant reduction in patent fees.

II. SUPPLEMENTAL EXAMINATION IN THE AIA AND INEQUITABLE CONDUCT

The law of inequitable conduct was changed by the Federal Circuit’s decision in *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276 (Fed. Cir. 2011), which was decided a few months before the passage of the AIA. By significantly raising the legal standards for both materiality and intent, *Therasense* made it very difficult for patent defendants to mount a successful inequitable conduct counterclaim. *Id.* at 1290-91. When considered in light of the *Therasense* decision, the supplemental examination provisions in the AIA merely provide an additional mechanism to attempt to purge the likelihood of inequi-

table conduct assertions in the small number of cases in which that assurance and opportunity is helpful.

The supplemental examination provisions are likely to benefit small companies with fewer resources to devote to patent prosecution, which previously were more likely to make inadvertent mistakes in the course of prosecution that could be seized upon by a defendant in subsequent litigation. Eli Lilly's patent counsel recently pointed out that the supplemental examination mechanism in the AIA would be very helpful in situations with entrepreneurial entities. *See* Douglas Norman, Esq., Chief Patent Counsel, Eli Lilly & Co., Remarks at the Indiana University Robert H. McKinney School of Law Symposium, *The America Invents Act: Patent Law's New Lease on Life* (Dec. 2, 2011). In the past, when smaller companies had very valuable patented technologies (such as a significant molecule) but were disadvantaged by events in the course of patent prosecution (such as the inadvertent omission of relevant but ultimately distinguishable prior art), they had no recourse when larger companies refused to bear the risk of investing in a technology that ultimately could be found unenforceable. Now, under the supplemental examination provisions in the AIA, the larger company may be willing to file a request for supplemental examination to purge the basis for any future inequitable conduct challenge and then to license the patented technology.

Professors Rantanen and Petherbridge's arguments that the supplemental examination provisions encourage informational asymmetry and will cause a reduction in patent quality are not persuasive. It is certainly well established that, given the Patent Office's examination constraints, there is an informational asymmetry between patentees and the Patent Office that can then reduce the overall quality of issued patents. The AIA takes the approach that this informational asymmetry can be reduced most efficiently by bringing well-informed actors into the patent examination process who can provide the Patent Office with directly applicable knowledge about the prior art with respect to the specific claims at issue. Under the AIA, patentees know that if competitors consider their issued patent claims valuable, then these claims will be challenged in the Patent Office. It is then irrational for patentees simply to file patent claims of poor quality and incur the additional costs of a post-issuance challenge that will be successful for the challenger. In short, the post-grant and inter partes review mechanisms in the AIA have the potential to increase patent quality significantly, particularly with respect to the most valuable patents.

III. THE AIA AND INTERNATIONAL HARMONIZATION

Professors Rantanen and Petherbridge assert that “most foreign markets do not approach the U.S. market in terms of economic significance.” In fact, the size of the international (i.e., non-U.S.) market for products such as pharmaceuticals, wireless handsets, and smartphones, which embody multiple patented technologies, is much larger than the U.S. market. The major technology companies in the computer and communication sector and the pharmaceutical and life science sectors have recognized that for a long time. As an example, consider the extensive amount of patent litigation in various European countries related to wireless handsets and smartphones in the past two years. *See, e.g., Apple Seeks Ban On All Galaxy Smartphones, Tablets in EU*, COMPUTERWORLD (Aug. 18, 2011, 10:07 AM), http://www.computerworld.com/s/article/9219292/Apple_seeks_ban_on_all_Galaxy_smartphones_tablets_in_EU?taxonomyId=144. The small-to-medium enterprises (SMEs) in the United States are now realizing their ability to compete and profit in international markets.

By bringing the U.S. patent system and its prior art rules closer to a first-to-file system, the AIA is clearer and simpler for small businesses that wish to seek international patent protection. The AIA incentivizes and empowers a change in patent filing strategy that is easier to reconcile with that of other countries and that will also provide valuable learning for patentees. In the process, American companies, particularly SMEs, can make their technologies more valuable and attractive to potential buyers and licensees by obtaining exclusive rights for their innovations in international markets.

Of course, the AIA cannot solve all problems in foreign countries and markets. There may well be additional regulatory and logistical costs in some countries, but there will be many short-term and long-term opportunities as well, especially in the developed and rapidly developing countries. Professors Rantanen and Petherbridge suggest that if the AIA cannot solve all international patent harmonization problems and open up international markets, then the AIA should do nothing. Sustained, incremental progress, particularly in the international context, can prove to be important. With the passage of time, the AIA is very likely to be seen as a foundational step in the process of patent harmonization, opening up patent protection for America’s innovative companies in foreign markets.

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