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PRIORITY AND NOVELTY UNDER THE AIA

Robert P. Merges†

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I. INTRODUCTION

The Leahy-Smith America Invents Act of 2011, Pub. L. No. 112-29, 125 Stat. 284 (2011) ("AIA") radically transforms some of the most basic rules in the U.S. patent system. For many inventors and patent owners the most important changes center on priority and novelty. Practitioners working under the new rules will need to understand three basic issues to be most

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helpful to their clients: (1) the **critical date** for most purposes is now the date that a patent application is first filed; (2) the **prior art** relevant to a given patent claim now consists of all references available under the statute prior to the filing date; and (3) **priority contests** between rival claimants to an invention will now be determined almost exclusively by looking to when each of the rivals filed their patent application. The discussion that follows elaborates a bit on these basic principles, and describes in general terms how they compare to the basic operating rules that pertain to the Patent Act of 1952 ("1952 Act") system of priority and novelty.

I begin with a brief explanation of the overall structure of the AIA's novelty provisions. I then consider the related yet distinct concepts of novelty and priority, and explain how the AIA changes the basic parameters of both these fundamental issues. I pay particular attention to two new statutory issues—the definition of "disclosure" and the creation of a "grace period" within which inventors can file a patent application. I conclude with some observations, sparked by the AIA, on continuity and change in the patent system.

II. OVERVIEW OF THE AIA'S NOVELTY PROVISIONS

A. A SOMEWHAT SIMPLER STRUCTURE

Overall, the AIA provides a somewhat simpler structure than the 1952 Act. Gone is the difference between novelty, strictly speaking, and the statutory bars under the 1952 Act.[1] The AIA eliminates the somewhat awkward structure of the 1952 Act, in which the related but distinct concepts of novelty and statutory bar appeared in successive subsections of § 102.[2]

1. The caption to § 102 of the 1952 Act reads: "Conditions for patentability; novelty and loss of right to patent." 35 U.S.C. § 102 (2010). The latter phrase, "loss of right to patent," was clearly a reference to the statutory bars—which have the effect of cutting off an inventor's right to a patent unless he or she acts quickly after a prior art event. AIA § 102(a), by contrast, is captioned "Novelty; Prior Art," a title that suggests the more uniform structure I am describing, and that at any rate eliminates the technical distinction between novelty and the statutory bars. The Leahy-Smith America Invents Act of 2011, Pub. L. No. 112-29, § 3(b)(1), 125 Stat. 284, 285 (2011) (hereinafter "AIA").

2. The novelty and statutory bars under the 1952 Act were distinct concepts in two respects. Under the 1952 Act, only a third party can create novelty problems under § 102(a), whereas anyone—including the inventor him or herself—can create prior art that serves as a statutory bar under 1952 Act § 102(b). (Section 102(a): "the invention was known or used by others . . ."; section 102(b): "the invention was described in a printed publication . . . [not "by others"]). Indeed, in many cases, such as *Egbert v. Lippmann*, 104 U.S. 333 (1881), and *Pfaff v. Wells Elec., Inc.*, 525 U.S. 55 (1998), it is the inventor himself that does something—using an invention in public, for example, or placing an invention on sale—that bars his ability to get a patent later. The AIA preserves elements of this distinction, but does so

This means the end of the repetition of various categories or types of prior art under the two subsections, 1952 Act § 102(a) and § 102(b)—"patented, printed publications," etc. It also means that the grace period concept, which had been buried in the structure and wording of 1952 Act § 102(b), is much more apparent and prominent in the AIA. Under the new Act, the two distinct concepts of novelty and statutory bars are presented in a unified provision, AIA § 102, which, first, states the rule that prior art appearing before the critical date deprives the inventor of his or her entitlement to a patent; second, defines all categories or types of references that qualify as prior art under the AIA (AIA § 102(a)(1) and (2)); third, defines the critical date as the inventor's filing date (last phrase of AIA § 102(a)(1) and (2)); and fourth, identifies the grace period concept as an exception to the general rule that prior art appearing earlier than an inventor's filing date precludes patentability for the inventor's claimed invention.

In place of the 1952 Act structure, § 102 under the AIA provides one simple novelty rule, and then lists exceptions to it, in the form of the grace period provision.[3] The novelty rule, as mentioned, is keyed to the filing date. Additionally, however, the exceptions to the novelty rule—the situations in which an inventor might file a valid patent application even after otherwise invalidating information appears in the prior art—are stated in a distinct subsection. This contrasts with the old statutory bar provision of § 102(b), which states that an inventor is entitled to a patent unless an invalidating reference appears more than a year before the inventor files a patent application.[4] The notion of a one-year grace period is, of course, implicit in the 1952 Act phrase "[prior art appearing] more than a year before filing," but the AIA makes it much easier to see the purpose of this language. The AIA states the grace period in explicit, affirmative terms: "a disclosure made one year or less before the effective filing date shall not be prior art . . . [if certain requirements are met]."[5] Thus, as stated, the rule makes it clear that the grace period has the effect of removing otherwise problematic prior art, so long as that art meets the requirements of the section and the inventor follows through by filing within a year of the date the prior art appears.

under a different structure. Instead of separating out novelty/anticipation into one category, and statutory bars (including the grace period) into another, the AIA melds the two concepts together into a section on "prior art," AIA § 102(b).

3. The AIA's amended § 102(a)(1) and (2) state the rule: no patent if, before filing of claimed invention, the invention was patented, described, etc. (the amended § (a)(1)), or in a patent or application of another (the amended § (a)(2)). AIA § 3(b)(1). Section 102(b) by its terms states "Exceptions"—i.e., the grace period provisions. *Id.*

4. 35 U.S.C. § 102(b) (2010).

5. AIA § 3(b)(1).

The best way to grasp this point is to read the new language of § 102 in the AIA:

> § 102(a) NOVELTY; PRIOR ART.—A person shall be entitled to a patent unless—
>
> (1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention; or
>
> (2) the claimed invention was described in a patent issued [to another] . . . or in [another's] application for patent [that is] published . . . [and that] was effectively filed before the effective filing date of the claimed invention.
>
> (b) EXCEPTIONS.—
>
> (1) DISCLOSURES MADE 1 YEAR OR LESS BEFORE THE EFFECTIVE FILING DATE OF THE CLAIMED INVENTION.—A disclosure made 1 year or less before the effective filing date of a claimed invention shall not be prior art to the claimed invention under subsection (a)(1) if—
>
> (A) the disclosure was made by the inventor or joint inventor or by another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or
>
> (B) the subject matter disclosed had, before such disclosure, been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor.
>
> (2) DISCLOSURES APPEARING IN APPLICATIONS AND PATENTS.—A disclosure shall not be prior art to a claimed invention under subsection (a)(2) if—
>
> (A) the subject matter disclosed was obtained directly or indirectly from the inventor or a joint inventor;
>
> (B) the subject matter disclosed had, before such subject matter was effectively filed under subsection (a)(2), been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or
>
> (C) the subject matter disclosed and the claimed invention, not later than the effective filing date of the claimed invention, were

> owned by the same person or subject to an obligation of assignment to the same person.[6]

Note that the phrase "effective filing date" generally refers to the filing of a patent application that establishes priority under U.S. law. This includes an application filed only in the United States, or at least first in the United States, and also certain applications filed first in foreign patent systems that are, by virtue of compliance with international treaties and U.S. law, granted the benefit of a U.S. filing date though initially filed elsewhere.[7]

B. GEOGRAPHIC DISTINCTIONS ELIMINATED IN THE AIA

Speaking of foreign activity, the AIA continues a longstanding trend by eliminating more geographic distinctions in the definition of prior art.[8] Under the 1952 Act, certain types or categories of prior art are within the prior art regardless of where they occur.[9] Patents and printed publications are the best examples. Whether a patent is issued in Germany, Japan, or China, it is still within the prior art; so too with publications. But under the 1952 Act other types of prior art have geographic limits.[10] Only "on sale" activities that occurred *within the United States*, for example, enter the prior art under the 1952 Act.[11] Foreign sales are not within the prior art. The AIA eliminates geographic distinctions for all categories of prior art. Under the AIA, if an event or activity occurs that meets the definition of prior art, it is within the prior art for U.S. patent law—regardless of where it occurs.[12]

III. PRIORITY VERSUS NOVELTY

For many casual observers, the innovations of the AIA of 2011 can be summarized by saying that the U.S. patent system has now moved from a "first-to-invent" system under the 1952 Act to a "first-to-file" system under the AIA. As a shorthand description, one can do worse. Yet this way of describing the AIA can also be a bit misleading. A deeper understanding of the relationship between the 1952 Act and the AIA is necessary to

---

6. AIA § 102. Note that § 102(c), "COMMON OWNERSHIP UNDER JOINT RESEARCH AGREEMENTS," deems subject matter disclosed and claimed by members of a joint research team to be "owned by the same person" under § 102(b)(2)(C).

7. *See* AIA § 3(a)(2)(i) (adding definition of "effective filing date" to § 100 of the 1952 Act).

8. *See generally* Margo A. Bagley, *Patently Unconstitutional: The Geographical Limitation on Prior Art in a Small World*, 87 MINN. L. REV. 679 (2003).

9. *Id.*

10. AIA § 102(b)(1).

11. *Id.*

12. *Id.*

understand the accuracy and limits of this label. As we shall see, there is good reason for the official or formal label given to the new novelty/priority system: first-inventor-to-file. Indeed, a more precise definition might be "first-proven-inventor-to-file," where proof takes the form either of an earlier filing date or a widely available disclosure.

One important issue in this respect is the difference between priority and novelty. Strictly speaking, priority is a question of *who, as between two rival inventors, will obtain a patent for an identical invention*. Priority, in other words, is a matter of "inventor vs. inventor"; whichever of the two is first (under the relevant rule) wins the patent. Novelty is a different matter. Novelty is a question of *whether, as between an inventor and a piece of prior art, the inventor acts before or after the prior art enters the field*. Novelty, then, is a matter of "inventor vs. prior art": if an inventor can show that he or she did whatever is required before a reference enters the prior art, the inventor gets a patent.

As between these two concepts, it is priority that is most clearly now a "first-to-file" regime. The AIA's first-to-file rule eliminates the need to decide which of two rival inventors actually *invented* first. In the vast majority of cases, the only relevant question under the AIA is which of the two rival inventors *filed* first. (The only exceptions are (1) where the first filer learned of or outright stole the invention from another person; and (2) where the second filer made a public disclosure of the invention before the first filer filed a patent application. In the first case, the PTO can undertake a "derivation proceeding" to sort out who is the rightful owner of the invention.)[13] This eliminates the need for the expensive and drawn-out priority contests under the 1952 Act known as patent interferences.[14]

With this single stroke, the United States has resolved a longstanding debate over the relative merits of first-to-invent versus first-to-file priority.[15] Two prominent arguments in this debate are worthy of mention. First, defenders of the traditional first to invent system often claim that it is required by the language of the patent and copyright clause of the constitution—i.e., that "exclusive rights to . . . inventors" must necessarily

13. AIA § 135.

14. 35 U.S.C. § 135 (2010).

15. *See, e.g.*, Dana Rohrabacher & Paul Crilly, *The Case for a Strong Patent System*, 8 HARV. J.L. & TECH. 263 (1995) (arguing in favor of first to invent); Mark A. Lemley & Colleen V. Chien, *Are the U.S. Patent Priority Rules Really Necessary?*, 54 HASTINGS L. REV. 1299 (2003) (reviewing arguments in favor of first to file, while not advocating complete adoption of this system).

mean exclusive rights to *proven first inventors*.[16] This is questionable as a matter of interpretation,[17] but, even more importantly, the Supreme Court has spoken unequivocally in two recent copyright cases concerning Congress' very wide latitude in implementing the general language of the patent and copyright clause.[18] For this reason, there is very little doubt that the constitutional objection to the first-to-file system will fail to gain much traction.

Second, the primary argument in favor of first-to-file, aside from international harmonization, is that whatever degree of extra fairness was achieved under the old first to invent system was purchased at an exorbitant price. That is, while advocates of a first to invent system can plausibly claim that their rule is fairer, the fact remains that in the majority of cases the first-to-file rule reaches the same result as the first-to-invent rule.[19] And—here is the main point—it does so at a *much lower cost*. The extensive record keeping required to prove invention dates, together with the extremely high costs of conducting an actual interference, combine to make the first to invent system very expensive.[20] The great benefit of the first-to-file system is that all these

16. This view is summarized nicely in Dennis Crouch, *First to File and the Constitutional Argument*, PATENTLYO BLOG (June 11, 2011), http://www.patentlyo.com/patent/2011/06/first-to-file-and-the-constitutional-argument.html.

17. Article I, Section 8, Clause 8 of the U.S. Constitution reads in part: "The Congress shall have power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries." U.S. CONST. art. I, § 8, cl. 8. Uses of the term "inventor" roughly contemporaneous with the ratification of the Constitution in 1789 demonstrate conclusively that the word was taken to mean "*an inventor*" as opposed to (necessarily) *the* first and original inventor. This is evidenced by a consistent usage under which the word "inventor" was not used to implicitly mean "first inventor," but when "first inventor" was meant it was said this way—i.e., with the modifier "first." *See, e.g.*, JOHN FREIND, 2 HISTORY OF PHYSICK 315 (1726) ("Dr. Willis, the first inventor of the nervous system."), *cited in* OXFORD ENGLISH DICTIONARY (electronic ed. 2010); JOHN RAY, CORRESPONDENCE 1659–1705 (1848) ("I am not sure that Mr. Newton was the first inventor of that plant"), *cited in* OXFORD ENGLISH DICTIONARY (electronic ed. 2010); SIR HENRY BILLINGLSEY, THE ELEMENTS OF THE GEOMETRY OF EUCLID VOL. I24 (1570) ("Thales Mileseus . . . was the first inventor of this proposition . . . ."), *cited in* the OXFORD ENGLISH DICTIONARY (electronic ed. 2010).

18. Golan v. Holder, 132 S. Ct. 873 (2012) (upholding constitutionality of provisions in Uruguay Round Amendments Act of 1994 which granted U.S. copyrights to foreign works formerly unprotected in the United States); Eldred v. Ashcroft, 537 U.S. 186 (2003) (extending copyright term to life plus seventy years did not violate constitution).

19. *See* Lemley and Chien, *supra* note 15 (documenting, based on a limited sample, that the same result is reached in a majority of cases).

20. *See, e.g.*, Bernard R. Pravel, *Why the United States Should Adopt the First-to-File System for Patents*, 22 ST. MARY'S L.J. 797, 799 (1991) ("The legal costs of an interference may be hundreds of thousands of dollars [in 1991 dollars] and may be difficult to avoid."). Some interferences last for many, many years and are presumably much more expensive even than

costs are saved (except in cases involving a derivation proceeding or proof of an earlier public disclosure by the second-filer). Once the AIA takes effect, priority disputes will for the most part be resolved not by multi-year, complex administrative proceedings as in the old interference practice, but instead by recourse to a very simple decision rule: which application has the earlier date stamp on it?[21]

A. THE GRACE PERIOD: A COMPLEX EXCEPTION TO THE PRIOR ART RULE

Even so, an applicant's filing date is not always the only relevant consideration under the AIA. In a significant number of cases, an inventor who files *after* a piece of prior art appears in the field may still be entitled to a patent. The crucial question in these cases is this: did the inventor file within the AIA's statutory grace period? The AIA permits a significant set of exceptions to the general rule that, to be valid, an application has to be filed before a prior art event. The details of these exceptions pose some of the most difficult issues in interpreting the AIA—and will no doubt be a fruitful source of complex litigation issues when AIA patents begin to be filed, asserted against infringers, and ultimately brought before the PTO and federal courts.

One definitional issue is crucial to understanding the grace period. When AIA § 2 refers to "disclosures," this is meant to include all the prior art categories set out in the new § 102(a)(1). This is apparent from the phrasing of the section, which reads: "A disclosure made 1 year or less before the effective filing date . . . shall not be prior art under subsection (a)(1)." This provision explicitly equates the term "disclosure" with the content of the "prior art" under subsection (a)(1). The word "disclosure" here is equivalent to a single prior art reference. And of course it also implies the opposite case

this average figure. *See, e.g.*, U.S. Steel Corp. v. Phillips Petroleum Co., 865 F.2d 1247 (Fed. Cir. 1989) (describing an enforcement action involving patent applications filed in the early to mid-1950s, resulting in an interference that lasted twenty-seven years); Andrew H. Thorson, *Japan's Patent System: An Analysis of Patent Protection Under Japan's First-to-File System (Part II)*, 77 J. PAT. & TRADEMARK OFF. SOC'Y 291 (1995) (describing thirty-year interference costing six million dollars).

21. *See* ROBERT P. MERGES & JOHN F. DUFFY, PATENT LAW AND POLICY 449 (5th ed. 2011) (explaining that one of the principal justifications for a first-to-file rule is "administrative convenience"). Note too that in one of the two exceptional cases, the situation where A filed first but B can prove earlier public disclosure plus a filing by B within a year of that disclosure, the requirement that B show public disclosure should keep costs down somewhat. This is because a public disclosure is much easier to prove than some of the more obscure types of (non-public) disclosures in patent law. Discovery costs and proof at trial should as a result be more manageable.

from the one stated: if a disclosure appearing one year or less before filing is not prior art, then one appearing earlier must be prior art.

Section 103 of the AIA adds further weight to this interpretation: "notwithstanding that the claimed invention is not identically disclosed as set forth in section 102," a claimed invention may still be obvious under § 103.[22] Finally, note also that this understanding of "disclosure" carries over a usage that appears in § 103 of the 1952 Act, which states that "though [an] invention is not identically *disclosed* or described as set forth in section 102," it may still be obvious under § 103.[23]

So "disclosure" in the grace period provision, AIA § 102(b), means any prior art reference as defined by AIA § 102(a). But which 102(b) disclosures qualify for the grace period? There are two general types: (1) those made by the inventor him or herself; and (2) those made by third parties, but *only when* the inventor him or herself had *previously* made a "public disclosure." We consider these one at a time.

Under AIA § 102(b)(1)(A), an inventor has to file a patent application within one year from the time he or she discloses an invention. This is the essence of the grace period, and continues the practice established in the statutory bars under the 1952 Act.

AIA § 102(b)(1)(B) also establishes a grace period in some cases of third-party disclosure. But for an inventor to qualify for this grace period, he or she must "publicly disclose" prior to the time of the third-party disclosure. If an inventor does not publicly disclose before a third-party disclosure, there is no grace period for that inventor. This is a significant change from the statutory bar provision of the 1952 Act, which conferred a one-year grace period from the date of a prior event whether that event originated with an inventor (patent applicant) or a third party.[24] Under the AIA, unless a third-

22. AIA § 103.

23. 35 U.S.C. § 103 (2010). Note further that one phrase in § 102(a)(1) of the AIA might seem to suggest that the AIA excludes obscure prior art from consideration. Section 102(a)(1) says that a prior art reference can be a patent, a printed publication, in use or on sale activities, or "otherwise available to the public." AIA § 102(a)(1). It should be clear from my arguments here that "disclosure" under the AIA connotes something "available to the public" without requiring widespread or openly accessible disclosure. Although we do not know yet what other categories of prior art a court might include under this omnibus "otherwise available" clause, we do know that this does not imply that the other categories must now be interpreted so as to include only widely accessible references. To restate my point: something can be "available to the public" in a limited way, and still be well short of "publicly disclosed" as that phrase is used in the grace period provision of the AIA.

24. *See, e.g.*, MERGES & DUFFY, PATENT LAW AND POLICY 490 (5th. ed. 2011) (describing third-party § 102(g) art under the 1952 Act); *id.* at 529 (comparing first-party and third-party § 102(b) prior art under the 1952 Act).

party disclosure is preceded by an inventor's public disclosure, that third-party disclosure does not create a grace period. It is prior art, plain and simple, and the inventor's later patent application will fail the novelty test. (This, incidentally, is the closest the AIA comes to mimicking the "absolute novelty" or non-grace period rules in foreign patent systems such as the European Patent Convention.)[25]

But what if an inventor does publicly disclose before a third-party "disclosure" under AIA § 102(b)? Then, so long as the inventor files a patent application within one year of the inventor's disclosure, the inventor's patent application will pass muster under AIA § 102.[26] Of course, as with the statutory bars, there are a good number of third-party "disclosures" that may be very difficult or impossible for the would-be patentee to discover, such as third-party confidential sales of the invention. So, the would-be patentee might well be quite in the dark regarding the time when the third-party disclosure takes place—and hence, regarding the end of the one-year grace

---

25. Article 54 of the European Patent Convention reads:

> (1)
> An invention shall be considered to be new if it does not form part of the state of the art.
>
> (2)
> The state of the art shall be held to comprise everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the European patent application.
>
> . . . .

Convention on the Grant of European Patents art.54, Oct. 5, 1973, 1065 U.N.T.S. 199, *available at* http://www.epo.org/law-practice/legal-texts/epc.html. For more on this, see IAN MUIR, MATTHIAS BRANDI-DOHRN & STEPHAN GRUBER, EUROPEAN PATENT LAW: LAW AND PROCEDURE UNDER THE EPC AND PCT 177–89 (2d ed. 2002) (explaining EPC novelty and the very limited grace period of six months only when a public use or disclosure is based on an illicit acquisition of information from the true inventor).

26. As a technical matter under the statute, AIA § 102(b)(1)(A) says that the third-party disclosure shall not be prior art if, before the disclosure, the "subject matter disclosed" had been preceded by a public disclosure on the part of the inventor/applicant. So strictly speaking under this subsection the one-year time bar applies to the third-party disclosure; this is the disclosure that is not prior art if it is preceded by the inventor. However, this does not mean that an inventor who publicly discloses prior to a third-party disclosure has one year from the third party's disclosure within which to file. There is no "grace period extension" where a third-party disclosure is preceded by an inventor's public disclosure. The reason is simple: an inventor's public disclosure is itself a disclosure under AIA § 102(a) and therefore it sets its own one-year time bar running. So if an inventor makes a public disclosure on January 1 of Year 1, and a third party makes a disclosure on February 1 of Year 1, the inventor still must file by January 1 of Year 2. If the inventor fails to do so, and files say on January 15 of Year 2, the application will fail the novelty test by virtue of the inventor's own disclosure on January 1 of Year 1.

period triggered by that disclosure. But this is just as true of the statutory bars under the 1952 Act.

AIA § 102 has a separate subsection that deals with prior-filed patents and patent applications. Section § 102(b)(2) parallels the general structure of § 102(b)(1), but for the special case of disclosures in patents and applications. Section 102(b)(2) sets out a grace period in three situations: (1) when an applicant or patent owner is faced with an earlier-filed patent that was derived from that applicant—i.e., with a disclosure that originated with the inventor him or herself; (2) when an applicant is faced with a prior-filed patent, but that applicant had made a public disclosure of the material before the filing of the prior-filed patent; and (3) when an applicant is faced with a prior-filed patent that is owned by the same owner who owns the applicant's invention. The general structure of the AIA incorporates elements found in several provisions of the 1952 Act. The derivation issue in AIA § 102(b)(2)(A) incorporates concepts from the 1952 Act derivation provision, § 102(f), for example.[27] In addition, this part of the AIA tracks § 103(c) of the 1952 Act, which deals with common ownership situations.

B. DISCLOSURE AND PUBLIC DISCLOSURE UNDER THE AIA GRACE PERIOD

As noted above, there are good reasons to read the term "disclosure" in AIA § 102(b) to mean any prior art reference defined under AIA § 102(a). A disclosure under the AIA, then, means subject matter that is, prior to an applicant's filing date: "patented, described in a printed publication, or in public use, on sale, or otherwise available to the public," under AIA § 102(a)(1); as well as subject matter "described in" a patent or published application, under AIA § 102(a)(2).

The wording of many of these specific prior art categories was carried over from the 1952 Act, and indeed, many phrases originate in even earlier versions of the Patent Act. Many of the phrases have been the subject of extensive judicial interpretation over many years—making § 102 one of many examples of what might be called a strong common law tradition in patent law.[28] Many crucial terms in this body of law carry with them extensive case

27. 35 U.S.C. § 102(e), (f) (2010).

28. *See* Peter S. Menell, *The Mixed Heritage of Federal Intellectual Property Law and Ramifications for Statutory Interpretation*, UC Berkeley Public Law Research Paper No. 1895784 (2011), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1895784.

law interpretations.[29] It is generally understood, in patent law as elsewhere, that when Congress chooses to preserve legal language with an extensive body of interpretive case law behind it, that choice means that accepted case law interpretations are carried forward into the new legislative enactment.[30] For purposes of the AIA, this general rule has some important consequences.

1. *Confidential Sales and Non-informing Public Uses*

Most importantly for present purposes, we need to take note of several of the prior art categories defined by traditional terms carried into AIA § 102: "in public use" and "on sale." According to an extensive body of case law, these prior art categories include material that can be quite confidential, or at any rate essentially undiscoverable by members of the general public.[31] A consistent line of cases, for example, holds that confidential sales or offers place an invention "on sale" for purposes of 1952 Act § 102(b).[32]

The situation with respect to "public use" prior art is a bit more complex. The difficulty comes in cases where the output of an invented machine, or the end product of an invented process, is used in public—so-called "non-informing public use" cases. (They are called "non-informing" because the output or end product that is used publicly or placed on sale is incapable of informing the public about the nature of the actual invention, the underlying machine or process.)[33] The cases on non-informing public use and sale have distinguished between the inventor's own activity and the activities of third

29. *Id.* at 9 (detailing early cases that fleshed out the meaning of statutory terms relating to utility and novelty). *See also* Craig Allen Nard, *Legal Forms and the Common Law of Patents*, 90 B.U. L. REV. 51 (2010).

30. *See, e.g.*, Microsoft Corp. v. i4i Ltd. P'ship., 131 S. Ct. 2238, 2245 (2011) ("[W]here Congress uses a common-law term in a statute, we assume the 'term . . . comes with a common law meaning, absent anything pointing another way.' ").

31. *See, e.g.*, Buildex Inc. v. Kason Indus., Inc., 849 F.2d 1461, 1464 (Fed. Cir. 1988) (holding that a firm offer sent to prospective purchaser was an "on sale" event, despite the fact that the offer was marked "confidential"); In re Hall, 781 F.2d 897 (1986) (holding that a single copy of graduate thesis on file in one library in Freiburg. Germany invalidated patent claim); Egbert v. Lippmann, 104 U.S. 333 (1881) (holding that a single instance of claimed corset stay, in use in corset of inventor's fiancé, is enough to invalidate patent under public use bar).

32. *See, e.g.*, *Buildex*, 849 F.2d at 1464 (holding that a firm offer sent to prospective purchaser was an "on sale" event, despite the fact that the offer was marked "confidential"). *See generally* Pfaff v. Wells Elecs., Inc., 525 U.S. 55 (1998) (discussing the on-sale bar and nowhere mentioning that a sale must be publicly available to trigger it).

33. Merges & Duffy, *supra* note 21, at 473.

parties. An inventor's own non-informing use is prior art, whereas a third party's is not.[34]

So, an inventor's own non-informing public use qualifies as a "public use" or "on sale" event as those phrases have been interpreted over the years. In terms of the AIA, this means that an inventor's non-informing public use or sale is a "disclosure" under AIA § 102(a), by virtue of the facts that (1) the phrases "public use" and "on sale" in AIA § 102(a) implicitly incorporate prior case law, including prior cases on an inventor's own non-informing uses; and (2) "disclosure" in AIA § 102(b) means "any legitimate prior art reference under AIA § 102(a)," which includes "public use" and "on sale" and therefore an inventor's own non-informing public use prior art.

By the same logic, third-party non-informing uses are not "public uses" or "on sale" events under the traditional case law. They therefore do not qualify as prior art references under AIA § 102(a), and consequently are not "disclosures" under § 102(b). To summarize the argument: the words used to define prior art categories in AIA § 102(a) implicitly incorporate a long history of case law interpreting those words; and the term "disclosure" in AIA § 102(b) is meant to be an omnibus word referring to all prior art references (as understood in light of case law) under AIA § 102(a).

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34. *Compare* Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co., 153 F.2d 516 (2d Cir. 1946) (Hand, J.) (holding that an inventor's own sales of output from machine is an on sale event barring a patent on the machine), *with* W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540 (1983) (holding that a third-party sale of tape from tape-making machine did not bar a patent to an inventor who filed more than one-year after that third-party sale). *See generally* Woodland Trust v. Flowertree Nursery, 148 F.3d 1368, 1370–71 (Fed. Cir. 1998):

> Section 102(b), unlike § 102(a), is primarily concerned with the policy that encourages an inventor to enter the patent system promptly, while recognizing a one-year period of public knowledge or use or commercial exploitation before the patent application must be filed. Thus an inventor's own prior commercial use, albeit kept secret, may constitute a public use or sale under § 102(b), barring him from obtaining a patent. *See* Egbert v. Lippmann, 104 U.S. 333, 336 (1881) (holding that an inventor's unobservable prior use was a public use). So under § 102(b), *third-party* prior use is not a bar when that prior use or knowledge is unavailable to the public. *See* W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1550 (Fed.Cir. 1983) (holding that a third-party secret commercial activity, more than one year before the patent application of another, is not a § 102(b) bar); *cf.* Baxter Int'l, Inc. v. COBE Labs., Inc., 88 F.3d 1054, 1058–59 (Fed. Cir.1996) (holding that a third-party prior use accessible to the public is a § 102(b) bar).

2. *Aside: On "Secret Disclosures"*

Even if you are sympathetic to the idea that there is a common law element to many important phrases and terms used in patent law, you might object to the conclusion stated just above. There is an obvious textual problem, it would seem, with an argument that the word "disclosure" is meant to include confidential sales, and the use in public of things that are made by but which in no way reveal the details of the underlying invention. Put simply, these sales and uses are in some sense secret. They are not open, widely discoverable, or easily accessible. So how can they be construed to be part of the general class of "disclosures"? Isn't a disclosure something that is open or widely available?

You might think so, but you would be at least partly mistaken. In the Oxford English Dictionary, one definition of "disclose" is "to unclose, unfold, or unfasten."[35] An older definition is given as "to open up to one's own knowledge, to discover."[36] Examples of "disclosure" in the OED include watching an egg hatch or watching a caterpillar emerge from its cocoon. From these definitions we get a sense of disclosure as the opposite of complete "closedness"—but not necessarily as requiring widespread dissemination, or ubiquitous accessibility. Disclosure can be, in these examples, a fairly quiet and small-scale affair. While one meaning in the OED is, as might be expected, "to make openly known," this is only one meaning. The sense of the other meanings is of something that can be much more limited. And so, following this sense of the word, a confidential sale or non-informing public use can be a "disclosure" in that it represents a move away from complete secrecy, or use only inside a highly protected sphere such as within the strict boundaries of a single company. There is room, in other words, for the idea of a "secret disclosure"—a disclosure that goes beyond absolute nondisclosure but not nearly all the way to wide-open and free dissemination.[37] And since this interpretation makes so much sense in

35. OXFORD ENGLISH DICTIONARY (2d ed. 1989; electronic ed. 2009).

36. *Id.*

37. It should be noted that in one limited context, the federal False Claims Act (FCA), "public disclosure" has been interpreted to cover quite limited disclosures. *See, e.g.*, United States v. Bank of Farmington, 166 F.3d 853, 860 n.5 (7th Cir. 1999), *overruled on other grounds by* Glaser v. Wound Care Consultants, Inc., 570 F.3d 907 (7th Cir. 2009) ("[D]isclosure to a public official with direct responsibility for the claim in question of allegations or transactions upon which a qui tam claim is based constitutes public disclosure within the meaning of [the FCA]"). However, there are three distinct aspects of FCA cases that bear mentioning, and that strongly suggest that this interpretation is specific only to this statute. First, the limited disclosures here are those made by public officials in their official capacities, which suggests that despite how limited they are in practice they are technically

light of the history of the words used to define prior art, and the structure of the AIA and prior patent Acts, it appears to be the correct one in this case.[38]

a) Prior-Filed Patent Applications as Secret Disclosures

Another distinctive feature of the AIA is the way the new act handles information contained in the specification of a prior-filed patent or application. Note at the outset that § 102(b)(2) refers to information in earlier-filed application as "disclosures"—further indication that non-public events qualify as disclosures under the AIA.

In this respect, the AIA carries forward the rule from § 102(e) of the 1952 Act that information contained in the specification of a prior-filed application or patent is prior art to a later-filed application that claims the same information. This rule derives originally from Justice Oliver Wendell Holmes' opinion in *Alexander Milburn v. Davis-Bournonville Co.*,[39] and so represents another instance in which common law rulings in patent law are perpetuated in a new generation of statutory enactments. AIA § 102(a)(2) has

open for general public discovery. Second, the effect of this interpretation is to restrict the filing of dubious claims; once a piece of information is disclosed by a public official it is wasteful to provide incentives under the FCA for private individuals to advance the same information—the purpose of the FCA is already being served by the public action. Third, the phrase "publicly disclosed" interacts closely with the FCA's rule eliminating FCA cases where a private party's notice regarding governmental agency wrongdoing is "based upon" the publicly disclosed information. It is difficult to understand the meaning of public disclosure in this context without understanding what "based upon" means. *See, e.g.*, Glaser v. Wound Care Consultants, Inc., 570 F.3d 907 (7th Cir. 2009) (construing both phrases together). On the overall purpose of the FCA, *see* Graham County Soil & Water Conservation Dist. v. United States, 130 S. Ct. 1396 (2010) (construing a provision defining administrative public disclosures as applying to state administrative reports as well as federal ones).

38. This understanding of disclosure is consistent with usage in the trade secret field, and in many other areas of law. *See, e.g.*, Metallurgical Indus., Inc. v. Fourtek, Inc., 790 F.2d 1195 (7th Cir. 1986) ("We conclude that a holder may divulge his information to a limited extent without destroying its status as a trade secret. . . . If disclosure to others is made to further the holder's economic interests, it should, in appropriate circumstances, be considered a limited disclosure that does not destroy the requisite secrecy."); *see also* Henry W. (Hank) Jones III, Licensing in Cyberspace, Understanding the Intellectual Property License (1998), Practising Law Institute, Patents, Copyrights, Trademarks, and Literary Property Course Handbook Series, PLI Order No. G0-002E, 534 PLI/Pat 237, at 247 (reprinting a "Confidential Disclosure" agreement as an exemplar). This is in fact an old meaning of "disclose" in legal circles. *See, e.g.*, Livingston & Gilchrist v. Maryland. Ins. Co., 11 U.S. 506, 537 (1813) (Story, J.) (discussing the relevance of an insured party's "disclosure" and "nondisclosure" to an insurance firm of details regarding the interest of a Spanish national in a seagoing cargo that was seized by British privateers, giving rise to an insurance claim against the insurance firm; no sense of "disclosure" requiring any publicness, only a communication—presumably in confidence—to the insurance company).

39. 270 U.S. 390 (1926).

the same basic structure as § 102(e) of the 1952 Act: it applies whether the prior-filed application has issued as a patent or merely been published; and it creates the same "*nunc pro tunc*" rule, in that when a prior-filed application is published or issues as a patent, the information within it becomes prior art as of the date of filing.[40] The major difference is that, unlike under the 1952 Act, the prior-filed patent rule under the AIA applies whether the prior-filed application merely describes the later-filed invention, or also describes and claims that invention. (Recall that overlapping claims were handled under the 1952 Act under § 102(g).) The critical date, in other words, is the filing date of the first-filed patent or application. The invention date of the second filer does not matter; there is no "swearing behind" AIA § 102(a)(2) prior art, as there is for § 102(e) of the 1952 Act.[41]

3. *"Public Disclosure": Meaning and Rationale*

It is abundantly clear by now, I hope, that the AIA uses the word "disclosure" as a term of art whose meaning is drawn from the structure of the Act and the case law that informs the various categories of prior art. This is important to keep in mind as we turn to the next critical aspect of the AIA: the closely related meaning of the term "*public* disclosure" in AIA § 102(b).

The simple and obvious point to be made at the outset is that a public disclosure under AIA § 102(b) must necessarily be one that is more widely available, more publicly accessible, than a mere disclosure. "Disclosure" is something that is beyond—though not necessarily far beyond—complete and utter secrecy. So "public disclosure" must be something well beyond limited disclosure. It must mean accessible, at least in theory, to the general public.

This seems clear from the wording of the statute. The contrast between "disclosure" and "public disclosure" in the AIA is too obvious to ignore. But what purpose does it serve? Why did Congress choose to make this distinction? For an answer to that we have to turn back to the statute itself, specifically the grace period provision of AIA § 102(b)(1)(B), which eliminates from the prior art disclosures made one year or less before the filing date if:

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40. This follows from the language of the statutes. Section 102(e) of the 1952 Act says "[No patent if invention described in] a patent granted on an application for patent by another . . . ," while AIA § 102(a)(2) states "[No patent if] the claimed invention was described in a patent issued [to another] . . . ."

41. 37 C.F.R. § 1.131 (2011) (An "inventor may submit an appropriate oath or declaration to establish invention of the subject matter prior to the effective date of the reference . . . . The effective date of a U.S. patent [or] U.S. patent application . . . is the earlier of its publication date or date that it is effective as a reference under 35 U.S.C. 102(e).").

> the subject matter disclosed had, before such disclosure, been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor.

The basic idea is this: an inventor earns a grace period when he or she "publicly discloses" before a reference appears in the prior art. This must be read together with the grace period under AIA § 102(b)(1)(A). Taken together, the grace period provision says: A disclosure made one year or less before the effective filing date of a claimed invention shall not be prior art to the claimed invention if: (A) the disclosure was made by the inventor; or (B) the subject matter disclosed had, before such disclosure, been publicly disclosed by the inventor.

Section 102(b)(1)(B), it seems, should be read this way. The relevant "disclosure" in § 102(b)(1)(B) is the third-party disclosure. This disclosure will be removed from the prior art only if the inventor has made a prior public disclosure of the same subject matter. When the inventor has done this, the third-party disclosure is removed from the prior art under the subsection.

Yet under these circumstances, the inventor's public disclosure must be analyzed separately under § 102(b)(1)(A). That is, the inventor's public disclosure under § 102(b)(1)(B) is also a disclosure "made by the inventor" under § 102(b)(1)(A). And under § 102(b)(1)(A), this disclosure is removed from the prior art so long as it is within one year of the inventor's filing date.

There are two reasons to read the statute this way. First, the text supports this view. Recall that AIA § 102(b)(1) says that a disclosure is removed from the prior art only if that disclosure is made one year or less before the applicant's filing date, and one of two other requirements are met. The one-year time period applies to the entire subsection, both § 102(b)(1)(A) and (B). Then § 102(b)(1)(A) and (B) state the alternative additional requirement—the additional condition that must be met, along with the one-year requirement. These alternative requirements, one of which must be satisfied along with the one-year time period, are these: the disclosure has to be *either* (A) made by the inventor; *or* (B) made by a third party and preceded by a public disclosure on the part of the inventor. The exception in § 102(b)(1)(B), in other words, deals with *third-party disclosures*. These are the prior art events that, without § 102(b)(1)(B), would bar the novelty of an inventor's application. The situation dealt with in § 102(b)(1)(B) is a distinct case from § 102(b)(1)(A). What makes it distinct is that it involves third-party disclosures within a year of an applicant's filing date. The signal that the two situations are distinct is the use of the word "or" between parts § 102(b)(1)(A) and (B).

The second reason to read AIA § 102(b)(1) this way is that, otherwise, § 102(b)(1)(B) might seem to create a "super grace period" in cases where a later applicant has made an earlier public disclosure. How could this be? The argument could be made that the one-year time period stated in the introductory phrase of § 102(b)(1) applies only to the third-party disclosure and *not* to the inventor's public disclosure under § 102(b)(1)(B). The language of § 102(b)(1), remember, is this: "A disclosure made [one] year or less before the effective filing date of a claimed invention shall not be prior art if" (A) happens or (B) happens. Section 102(b)(1)(B) specifically refers to a "disclosure" made by third parties. It covers the case where "before . . . disclosure" the inventor has publicly disclosed the same subject matter. The disclosure that is, grammatically speaking, the subject of § 102(b)(1)(B) is the third-party disclosure. Collapsing the introductory phrase and paraphrasing, the language states: A disclosure made one year or less before the filing date is not prior art if it is a third-party disclosure and is preceded by an inventor's public disclosure. It is the third-party disclosure that must be preceded by the inventor's public disclosure, if the inventor is to preserve a grace period. So—here is the real point—arguably it is only the *third-party disclosure* that must be one year or less before filing. Arguably, the one-year time period does not apply to the "public disclosure" in § 102(b)(1)(B), because this is, in the terms of the statute, not the subject of § 102(b)(1)(B), not the "disclosure" that is removed from the prior art in § 102(b)(1)(B). Put simply, the "disclosure" of § 102(b)(1)(B) is the third-party disclosure, and the one-year time limit applies only to this disclosure and not the act of an inventor who is seeking to avoid the prior art effect of this disclosure.

If the statute were read this way, then an inventor who publicly discloses on January 1 of Year 1 would not set a one-year clock running by virtue of that public disclosure in the event that a third party later made a disclosure, say on June 1 of Year 3. Under these facts only on June 1 of Year 3 would the one-year period begin to run. That is so because only a third-party disclosure made one year or less before the applicant's filing can be removed from the prior art under AIA § 102(b)(1)(B). A third-party disclosure made more than a year before the applicant's filing date cannot be removed. So, in that case, the inventor's earlier public disclosure cannot save him or her. But the fact remains that unless the inventor's public disclosure is analyzed separately it does not seem to be subject to the one-year limiting grace period under § 102(b)(1)(B). The inventor's public disclosure under § 102(b)(1)(B) is not the disclosure, made a year or less before filing, whose prior art status is affected by § 102(b)(1)(B); it is the third party's disclosure that shall not be prior art under § 102(b)(1)(B) if the conditions of § 102(b)(1)(B) are met. Put differently, the effect of § 102(b)(1)(B) is to remove a third-party disclosure

from the prior art; so this is the disclosure, made a year or less before the inventor's filing, which is the focus of § 102(b)(1)(B). The introductory phrase uses the same term as is used to refer to the third-party disclosure in § 102(b)(1)(B), so it is this third-party disclosure that is subject to the one-year limitation described in the introductory phrase.

The solution, as argued earlier, is to view a "public disclosure" as in essence two separate events. It is first a "disclosure by the inventor" under AIA § 102(B)(1)(A). But it is also one component of a third-party disclosure situation under § 102(b)(1)(B); to be precise, it is the one act on the part of the inventor that can remove third-party disclosures from the prior art, so long as both those third-party disclosures and the inventor's public disclosure are one year or less from the inventor's filing date. The crucial advantage to reading the statute this way is that the applicant must still file within one year of his or her own public disclosure in order to preserve patentability. The rationale, again, is that although an inventor's public disclosure removes a third-party reference under § 102(b)(1)(B), it is *also* a regular inventor's-own disclosure under § 102(b)(1)(A). And therefore it is subject to the one-year time limit stated in the introductory language in § 102(b)(1), by virtue of the fact that it is covered under § 102(b)(1)(A).[42]

For this argument to win out, it is apparent that a "public disclosure" under AIA § 102(b)(1)(B) must also qualify as a "disclosure that was made by the inventor" under § 102(b)(1)(A). But this seems quite logical. A public disclosure is, after all, a special type of disclosure. The smaller class—public disclosures—is included in the larger class, disclosures. It is a subset of the larger class. To put it in patent terms, "public disclosures" reads like a dependent claim, and anything that infringes a dependent claim must also of course infringe the independent claim on which (or from which) the dependent claim depends.[43] Put simply, a public disclosure capable of removing a third-party reference under AIA § 102(b)(1)(B) is a species of the larger genus of "inventor's disclosure" under § 102(b)(1)(A). This particular species plays two roles: it is a normal inventor's-own disclosure, and it is also an event that removes third-party disclosures from the prior art. As a normal inventor's-own disclosure, it is subject to the one-year limitation of

42. Collapsing and paraphrasing the language of AIA § 102(b)(1) helps to show what I mean: "A disclosure made one year or less before the effective filing date of a claimed invention shall not be prior art to the claimed invention if (A) the disclosure was made by the inventor . . . or (B) [the disclosure was by a third party and was preceded by a public disclosure on the part of the inventor] . . . ." AIA § 102(b)(1).

43. On dependent claims see Merges & Duffy, *supra* note 21, at 30–31.

§ 102(b)(1)(A). As a public disclosure, it removes third-party disclosures from the prior art under § 102(b)(1)(B).

a) Explaining "Public Disclosure" and the Grace Period: Policy Rationale

The animating idea behind the new grace period seems to be this: to earn a grace period as against a third party who has begun to bring an invention to the attention of the public, an inventor must confer some benefit on the public. The price of the grace period when a third party is willing to disclose, in other words, is something beyond a technical or limited disclosure. What is required is a full-on *public* disclosure. That is the essence of the new third-party grace period under AIA § 102(b)(1)(B).

Why might this make sense? Consider the difference between a secret or highly limited disclosure—say, for example, a confidential sale—and a widely accessible public disclosure. This explanation depends on accepting a lack of symmetry in the AIA's treatment of disclosures. A secret disclosure made by the inventor him- or herself begins the one-year grace period. But a secret disclosure on the part of a third party does not. The explanation lies in one of the traditional justifications for the statutory bars under the 1952 Act. From the earliest cases in this area, most notably *Pennock v. Dialogue*,[44] the courts expressed concern that an inventor who commercializes an invention prior to filing a patent application could thereby extend the monopoly period or term of protection set by the Patent Act. A long period of commercialization, when tacked onto the normal patent term, might create in effect a "super patent."[45] Ten years of pre-filing commercialization, for example, when joined to an average patent term of seventeen years, would amount to an effective period of exclusivity totaling twenty-seven years. To prevent this, the statutory bars were interpreted strictly: *any* commercialization activity more than a year before filing was thought to run afoul of this "no extension of monopoly" policy.[46] And so was born the notion that even secret sales or non-informing public uses more than a year before filing were enough to invalidate a patent. The way to prevent monopoly extensions, in other words, was to force inventors to "hurry up and file."

44. 27 U.S. 1 (1829) (Story, J.). *See generally* Merges & Duffy, *supra* note 21, at 525–26 (discussing *Pennock* and its implications).

45. *See id.* at 591 (discussing cases raising "monopoly-extension policy" problem).

46. *See, e.g.*, Pfaff v. Wells Elec., Inc., 525 U.S. 55 (1998) (holding that sales confirmation that came eleven days before critical date barred patent; effective extension of one year plus eleven days, in other words, deemed to violate statutory policy).

The statutory bars under § 102(b) of the 1952 Act applied to all parties, inventors and third parties alike. But the "hurry up and file" policy was always an awkward fit where third-party statutory bar activities were concerned. Why should an inventor, who is very likely not even aware of an obscure third-party prior art event, be subject to the running of a one-year clock when that inventor never knew the clock had even started to tick? One answer might be that the strict application of the one-year time bar might have the general effect of encouraging an inventor to file. One can never be sure if a clock was set running earlier by a third party, so the best practice might be to file as soon after inventing something as possible. But of course this rationale completely undercuts the notion of a grace period—a safe period of time after a prior art event during which an inventor can still preserve his or her patent rights. Under the right facts, where a third party creates a valid prior art reference close to a year prior to an inventor's invention date, the effective grace period might be vanishingly short. And in addition, if the "hurry up and file" policy is to be paramount, there are better ways of achieving it than tying patent validity to third-party events more than a year before filing. The easiest way is to adopt an "absolute novelty" standard such as that in effect in the European Patent Office: any prior art reference with an effective date prior to the applicant's filing date bars patentability, period. The truth is that the Patent Act has always sought to balance "hurry up and file" with a true break for inventors, in the form of a grace period.[47]

By design, or perhaps by happenstance, the AIA seems to have done a reasonably good job of balancing these policies. I say this for two reasons. First, the AIA carries forward the distinction between inventor's-own secret disclosures and third-party secret disclosures. As with preexisting case law, the AIA says that the former are prior art events, while the latter are not. This has the effect of discouraging an inventor's early commercialization, and thus furthering the "no extension of monopoly" policy, while not punishing an inventor for ultra-obscure, secret third-party activities that would otherwise shorten the effective grace period.

Second, the AIA permits an inventor to safeguard against the effects of third-party prior art by publicly disclosing his or her invention. Public disclosure immunizes the inventor against the prior art effect of third-party disclosures. By publicly disclosing, the inventor removes any third-party prior references that come after public disclosure. One interesting result of this

47. Merges & Duffy, *supra* note 21, at 528 (discussing the U.S. grace period throughout history).

new rule is that the inventor can seize control over the one-year clock that applies to his or her invention. The inventor who decides to publicly disclose an invention has in effect *chosen* the date on which the one-year clock begins to run. A third party that makes a subsequent disclosure cannot alter this. The inventor, having set the clock running, no longer has to worry about clock-related effects of third party activities. The choice to publicly disclose takes away the power of third parties to undermine the inventor's grace period.

Even so, two practical points must be emphasized. First, under AIA § 102(b)(1)(B), the disclosure strategy described above only works if the inventor's public disclosure precedes any and all third-party disclosures. If a third party manages to slip a valid disclosure into the prior art before the inventor publicly discloses, all bets are off. The undetected clock issue appears again and the inventor is out of luck, or at any rate subject to a one-year period that begins before he or she is aware of it. Second, public disclosure may be the answer to lots of third-party prior art problems, but it may come with some downside risks. The pressure toward early public disclosure forces an inventor to preserve patent rights at the cost of destroying trade secret status for an invention. The choice of whether to rely on patenting or trade secrecy may be difficult, especially in the period just after an invention is made. Product possibilities, market conditions, funding sources—all may be uncertain when a raw technology has just been developed. Public disclosure undoubtedly gives the inventor a strong leg up in the patent game—but it may turn out that this is not the right game to play with a given invention.

That said, there are two mitigating tactics available to soften the impact of this tough choice. First, an inventor can file a provisional patent application, which buys time in the same way as a public disclosure (more if a normal application is filed only at the very end of the one-year provisional period—with the eighteen-month publication window measured from the filing date of the normal or standard application, this preserves trade secrecy for up to two and a half years after the provisional is filed); and second, the AIA's prior user right arguably gives a boost for those who choose the path of trade secret protection. Even so, the need to decide early whether to earn a reliable one-year grace period via public disclosure, or rely on trade secrecy, may put many an inventor to a very difficult decision before a great deal of information is available.

b) Prior-filed Applications and Public Disclosures

Information disclosed in a prior-filed patent application or patent is part of the prior art under AIA § 102(a)(2), just as it is under § 102(e) of the 1952

Act. However, as with other prior art under AIA § 101(a)(1), there is a special exception, found in AIA § 102(b)(2), to the prior art rule of AIA § 102(a)(2). The exception provides that a later-filing inventor who claims what an earlier-filer discloses in a patent or application can remove that earlier-filed disclosure from the prior art. The way to remove it is to publicly disclose it first. If the subject matter is publicly disclosed before the earlier-filer files an application containing it, the subject matter is removed from the prior art.

Generally, to beat out another person who claims the same subject matter, an inventor must either (1) file first, or (2) fall under the grace period mentioned earlier—by (a) publicly disclosing before the other person's application, and (b) filing within one year of that public disclosure.

It is worth noting that the AIA refers to the information in the prior-filed application as a "disclosure." This is significant for two reasons. First, it lends credence to the argument I made earlier that "disclosure" under the AIA refers to any prior art event defined under the new act. Second, it shows once again that the AIA, by its terms, draws a sharp distinction between a disclosure and a public disclosure. A patent application is confidential until it is published, or until it issues as a patent; it is known only to the Patent and Trademark Office ("PTO") and the applicant. Yet the information in such an application counts as a "disclosure" under the AIA, and thus forms part of the prior art—just as it did under § 102(e) of the 1952 Act. Once again we see that "disclosure" is best read as "prior art reference," and is to be seen in stark contrast to a "public disclosure," which requires general public accessibility.

The grace period under the AIA is ultimately what justifies the label "first-inventor-to-file." An inventor's public disclosure signals the fact of invention. As long as that inventor files within a year, another inventor who happens to file first is out of luck. The first-discloser/second-filer is truly an inventor, by virtue of his or her earlier disclosure. And so the fact that this inventor did not actually file first is not important. But notice that the proof required to beat out an actual first-filer is substantial. The AIA requires proof of public disclosure, not just any type of prior art disclosure. Because public disclosure requires that prior art be made widely or generally accessible, this excludes obscure types of prior art. It follows that an inventor who can establish prior public disclosure will have convincing proof that he or she had possession and knowledge of the invention on a date prior to another person's filing of a patent application. Hence the label "first-proven-inventor-to-file." It takes solid proof to earn the grace period; and this means that actual first-filers will be beat out only by inventors who have a solid claim to the status of earlier inventor.

IV. CONCLUSION: CONTINUITY AND CHANGE IN THE PATENT SYSTEM

The AIA undoubtedly represents a sea change in the structure of the U.S. patent system. It replaces the venerable first-to-invent priority rule with first-inventor-to-file. And, in the process, it consolidates and modifies the foundational rules pertaining to patentable novelty. This is a big deal, by any measure.

And yet, terminology employed in describing novelty in the U.S. patent system is so deeply rooted historically that there is much more continuity built into the AIA than appears at first. So under the AIA the *date* when a reference becomes prior art has now changed in many cases, but the definitions of which events constitute prior art have for the most part not changed. The temporal element is new, but the AIA preserves an important part of the basic fabric of the prior art, in the form of the precise definitions of which events and what types of information will be said to count against the novelty of a patent application.

In addition, the AIA preserves and perpetuates the U.S. patent system's commitment to a grace period. While the AIA moves the United States to a first-inventor-to-file system, it does not go all the way to complete international harmonization. In particular, the AIA diverges from the international norm which approximates an "absolute novelty" standard. So even beyond the level of terminology, there is much in the AIA that shows a deep connection to the long history of U.S. patent law. When AIA cases finally reach the PTO and the courts, it would be wise for all involved to keep this point in mind. There is much that is new, and certainly much that is complex. But there is much also that ties the new AIA regime to the broad and deep history of patent protection in the United States.

CONSIDERING COPYRIGHT RULEMAKING: THE CONSTITUTIONAL QUESTION

Andy Gass†

ABSTRACT

This Article addresses anew the question whether rulemaking by the U.S. Copyright Office is constitutional. Formally, the Copyright Office is part of the legislative branch of the federal government; it is a subsidiary unit of the Library of Congress, rather than a freestanding independent agency or a part of the executive branch. The thesis here is that faithful application of Supreme Court precedent could plausibly proscribe not just prospective grants of public-facing regulatory authority to an "Article I" agency like the Copyright Office, but also certain existing rulemaking responsibilities that the Copyright Office regularly carries out in conjunction with the Library of Congress. The Article then goes on to discuss implications of that putative constitutional problem for the rulemaking provisions of the Digital Millennium Copyright Act's anti-circumvention regime, in particular. The claim in this latter portion of the Article is that if the triennial rulemaking mandated by 17 U.S.C. § 1201(a)(1)(B)–(C) is unconstitutional, then the statutory ban on the act of circumventing access-control technological protection measures in 17 U.S.C. § 1201(a)(1)(A) should be deemed invalid as well. Prevailing constitutional remedies doctrine dictates that the rulemaking process, which creates temporary exemptions from the circumvention ban, cannot be "severed" from the ban itself.

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I. INTRODUCTION

It is no secret that American copyright policy has its share of imperfections. Scholars have criticized the federal copyright statute in recent years for being, among other things, too long, too complicated, divorced from the normative underpinnings of intellectual property ideals, counterproductive to technological progress, and generally ill-suited both formally and substantively to serving valid social welfare goals.[1] In addition

1. *See generally* Pamela Samuelson, *Preliminary Thoughts on Copyright Reform*, 2007 UTAH L. REV. 551, 551 (describing the federal copyright statute as an "[o]bsolete [a]malgam" that is "much too long, . . . far too complex, incomprehensible to a significant degree, . . . imbalanced in important ways[, and] lack[ing] normative heft"); John Tehranian, *Infringement*

to revisions of particular provisions of the law, some commentators have proposed a change in the way that the federal government formulates and adopts copyright policy: maybe things would be better, the idea goes, if Congress made less copyright law and an administrative agency made more.[2]

The soundness of such proposals depends on a set of relatively wide-ranging considerations. Some are a function of subject-matter-specific facts concerning the particular mechanics and political economy of copyright law and policy. Others are a function of broader truths (or, perhaps more safely, contested truths) about the relative merits of policymaking by administrative bureaucracy versus policymaking by legislature. And others, still, may depend on the constitutional permissibility of imbuing the existing American administrative agency with principal copyright policy responsibility—the U.S. Copyright Office—with enhanced, public-facing lawmaking authority.[3]

In the interest of squarely evaluating the latter concern, this Article takes up anew the question—already addressed to some degree by others—

Nation: Copyright Reform and the Law/Norm Gap, 2007 UTAH L. REV. 537, 539 ("[T]he vast disparity between copyright law and copyright norms . . . ha[s] highlighted the need for reform."); Joseph P. Liu, *Regulatory Copyright*, 83 N.C. L. REV. 87, 139 (2004) ("[T]he current situation represents the worst of both worlds. . . . Copyright law is caught awkwardly halfway between a judicially administered property rights regime and an agency administered regulatory regime."); David Nimmer, *Codifying Copyright Comprehensibly*, 51 UCLA L. REV. 1233, 1315 (2004) ("Wading through interminable pages of opaque, contradictory, and indecipherable regulations in Title 17 is no longer the exclusive province of a 'highly litigious D.C. subculture'; it is now the lot of citizens everywhere who wish to follow copyright laws.").

2. *See, e.g.*, Michael W. Carroll, *Fixing Fair Use*, 85 N.C. L. REV. 1087 (2007) (advocating the establishment of an administrative agency to adjudicate fair use disputes); Liu, *supra* note 1, at 93; Arielle Singh, Note, *Agency Regulation in Copyright Law: Rulemaking Under the DMCA and Its Broader Implications*, 26 BERKELEY TECH. L.J. 527, 570 (2011); *see also* Nimmer, *supra* note 1, at 1381–82 (describing a trend since the 1990s whereby "each amendment [to the Copyright Act] outdoes its predecessor, not only for incoherence that commands national attention, but for pioneering new methods of bringing the legislative process into disrepute"); *cf.* Lawrence Lessig, *Reboot the FCC*, NEWSWEEK (Dec. 22, 2008), http://www.newsweek.com/id/176809 ("President Obama should get Congress to shut down the FCC and similar vestigial regulators, which put stability and special interests above the public good. In their place, Congress should create something we could call the Innovation Environment Protection Agency (iEPA), charged with a simple founding mission: 'minimal intervention to maximize innovation.' ").

3. This Article uses the term "public-facing policymaking authority" in contradistinction to the authority that the Copyright Office wields to establish rules governing its own internal operation, along with other essentially ministerial powers the agency enjoys. *See* Walter Dellinger, Office of Legal Counsel, Memorandum, *The Constitutional Separation of Powers Between the President and Congress: May 7, 1996 Memorandum for the General Counsels of the Federal Government*, 63 LAW & CONTEMP. PROBS. 513, 563 (2000) [hereinafter Dellinger Memo]; *see infra* note 40.

whether rulemaking by the Copyright Office is constitutional. The inquiry is not merely theoretical. The Copyright Office presently makes, or comes perilously close to making, public-facing, substantive copyright law in a number of respects—most notably in a role prescribed by the anti-circumvention regime of the Digital Millennium Copyright Act ("DMCA").[4] In view of the prominence of that regime,[5] this Article presents research and analysis regarding a question that follows from the principal, constitutional matter it addresses: if rulemakings under the DMCA's anti-circumvention provisions are actually unconstitutional, is the proper remedy to *sever* the rulemaking regime from its statutory parent, leaving in full force and effect the DMCA's blanket ban on circumventing technological protection measures that control access to copyrighted works? The answer is no; if the rulemaking regime in 17 U.S.C. § 1201(a)(1)(C)–(D) is unconstitutional, then the circumvention ban in 17 U.S.C. § 1201(a)(1)(A) should be deemed invalid as well. Finally, the Article concludes by outlining a research agenda to address related matters relevant to the institutional design of U.S. copyright policymaking.

In the grand scheme of things, no one would (or at least should) mistake questions about the constitutionality of quasi-legislative delegations to an administrative body charged with copyright policymaking as matters of urgent national concern. That said, copyright legislation—both existing and pending—has certainly emerged in recent months as a contentious issue in the popular consciousness.[6] The more that the existing copyright policymaking apparatus attracts public scrutiny and dissatisfies regulated firms, the more likely constitutional challenges to elements of its operation become. And as DMCA rulemakings, in particular, increasingly implicate

4. *See* 17 U.S.C. § 1201(a)(1)(A), (C) (2010). The DMCA establishes a blanket proscription against the circumvention of technological protection measures that prevent unauthorized access to copyrighted works. The Copyright Office is charged with carrying out a rulemaking every three years to identify and recommend needed carve-outs from that default prohibition, subject to final ratification by the Librarian of Congress. *Id.*

5. *See, e.g.*, Jenna Wortham, *In Ruling on iPhones, Apple Loses a Bit of Its Grip*, N.Y. TIMES, July 26, 2010, at B3 (reporting on the 2010 rule allowing iPhone users to "unlock" their devices).

6. *See, e.g.*, Jonathan Weissman, *In Fight over Piracy Bills, New Economy Rises Against Old*, N.Y. TIMES, Jan. 18, 2012, at A1; *Stopping SOPA: A Backlash from the Internet Community Against Attempts To Rein in Content Thieves*, ECONOMIST (Jan. 21, 2012), http://www.economist.com/node/21543173; Roger Yu, *Support for Anti-piracy Bills Wanes*, USA TODAY, Jan. 18, 2012, http://usat.ly/Mz13SF ("Bowing to the power of the Internet, several key lawmakers withdrew support for anti-piracy legislation after a 24-hour blackout by thousands of websites Wednesday, likely quashing any chance the bills would pass in their current form.").

hugely significant technology markets,[7] the incentives grow stronger, in turn, for adversely affected enterprises to invest the resources necessary for (and bear the risk of) sustained lawsuits challenging the regulatory framework as a whole.

II. IS COPYRIGHT OFFICE RULEMAKING CONSTITUTIONAL?

The plausible constitutional obstacle to Congress delegating rulemaking authority to the Copyright Office arises from the agency's position in the federal government. Because the Copyright Office sits as a division within the Library of Congress, which is part of the legislative branch, delegations from Congress to the Copyright Office may amount to unlawful delegations from Congress to a sub-unit of itself. To date, no court has held that the Copyright Office in particular may not execute rulemaking authority to the same extent as executive or independent agencies. A series of Supreme Court decisions casts doubt, however, on the constitutional permissibility of Congress empowering any Article I agency with relatively broad authority to make public-binding regulations.[8]

A. OVERVIEW OF THE COPYRIGHT OFFICE

The Copyright Office is and always has been largely a ministerial agency. It came into existence in 1897 as a department within the Library of Congress charged with implementing the United States' copyright registration and deposit systems.[9] To this day, many of its responsibilities concern the administration of those and similar regimes: reviewing submitted works for compliance with prevailing rules, maintaining related records (including a card catalogue with nearly forty-five million entries), and otherwise orchestrating the logistics of the day-to-day operation of the federal copyright machinery.[10] The Copyright Office has also historically advised Congress on copyright-related matters by generating draft legislation, policy recommendations, and reports regarding the state of domestic and international copyright affairs.[11]

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7. *See* Wortham, *supra* note 5.

8. *See* Dellinger Memo, *supra* note 3, at 562–63 (discussing "The Paradox of Congressional Agencies").

9. *See United States Copyright Office: A Brief Introduction and History*, U.S. COPYRIGHT OFFICE, http://www.copyright.gov/circs/circ1a.html (last visited May 15, 2012). The U.S. copyright system has included a registration and deposit regime since its inception in 1790. *Id.*

10. *Id.*

11. *Id.*; *see also* 17 U.S.C. § 701(b)(1)–(4) (2010).

Congress has never delegated to the Copyright Office any blanket authority to promulgate binding interpretations of U.S. copyright laws.[12] The Copyright Office can and does establish regulations related to "the administration of the functions and duties" it carries out[13]—and those rules, to be sure, do effectively determine the scope of substantive copyright rights in some respects.[14] But that particular delegation does not allow the Copyright Office to set policy that affects copyright-related matters altogether divorced from the agency's ministerial role.

In several narrow areas, though, Congress has departed from the norm that substantive copyright policymaking in this country is the responsibility of the legislature, not an administrative body. One way Congress has done so is by giving the Librarian of Congress—who supervises the head of the Copyright Office (known as the "Register of Copyrights")—public policy responsibility of various sorts for certain copyright matters. For example, the Librarian of Congress appoints the three Copyright Royalty Judges charged with setting rates and terms for compulsory licenses under a handful of Copyright Act provisions.[15] And as discussed at length in Part III, *infra*, Congress has also given the Librarian of Congress direct authority to ratify

12. *See* Bonneville Int'l Corp. v. Peters, 347 F.3d 485, 490 n.9 (3d Cir. 2003); *cf.* Compulsory License for Making and Distributing Phonorecords, Including Digital Phonorecord Deliveries, Interim Rule and Request for Comments, 73 Fed. Reg. 66,173, 66,174–75 (Nov. 7, 2008) (discussing the issue and tentatively, though not particularly persuasively, suggesting otherwise).

13. 17 U.S.C. § 702 (2010).

14. *See, e.g.*, Eltra Corp. v. Ringer, 579 F.2d 294 (4th Cir. 1978) (dismissing a challenge to a Copyright Office regulation making typeface designs unregistrable); 37 C.F.R. § 202.1 (2011) ("Material Not Subject to Copyright").

15. *See* 17 U.S.C. § 801(a)–(b) (2010); SoundExchange, Inc. v. Librarian of Congress, 571 F.3d 1220, 1222 (D.C. Cir. 2009). Today's system of Copyright Royalty Judges replaced the now-defunct Copyright Arbitration Royalty Panels—in place from 1993 to 2005—in which the Librarian of Congress similarly appointed the rate-setters (who then served on an ad-hoc, rather than full-time, basis). *See* Copyright Royalty Tribunal Reform Act of 1993, Pub. L. No. 103-198, § 2(a)(2), 107 Stat. 2304, 2304 (establishing the Copyright Arbitration Royalty Panels); *id.* § 2(f), 107 Stat. at 2308. In the preceding period, starting in 1978, those responsibilities had fallen on a body called the Copyright Royalty Tribunal, whose members were appointed directly by the President (with dubious results)—and before that, the only compulsory license in the federal copyright regime was set at the same statutory rate for the first sixty-nine years after its inception in 1909. *See* William Patry, *Why There Is No Copyright Royalty Tribunal*, PATRY COPYRIGHT BLOG (May 26, 2005, 1:10 PM), http://williampatry.blogspot.com/2005/05/why-there-is-no-copyright-royalty.html. At the time of this writing, the D.C. Circuit is currently reviewing the constitutionality of the appointments of the Copyright Royalty Judges. *See* Intercollegiate Broad. Sys., Inc. v. Copyright Royalty Bd., Case No. 11-1083 (D.C. Cir. argued Feb. 7, 2012).

exceptions from the DMCA's ban on circumventing certain technological protection measures.

In some other domains, the Register of Copyrights herself enjoys targeted delegations of authority to promulgate regulations.[16] The rulemakings that the Copyright Office carries out pursuant to these mandates tend to be narrow, industry-specific affairs implementing the complex compulsory licensing frameworks that make up some of the Copyright Act's more "impenetrable" provisions.[17] By and large, though, notwithstanding these select exceptions, the Copyright Office's raison d'être is not, and never has been, to forge rules concerning what acts copyright law does or does not proscribe and what rights it does or does not convey.

B. *METROPOLITAN WASHINGTON*, *BOWSHER*, AND *CHADHA*

The "formalist" doctrine that the Supreme Court has embraced to staunch perceived legislative encroachments on executive power[18] is the principal source of potential constitutional trouble for any effort to imbue the Copyright Office with meaningful rulemaking authority.[19] The most recent opinion in this line of cases is *Metropolitan Washington Airports Authority v. Citizens for Abatement of Aircraft Noise*, in which the Court found constitutional infirmities in a Board of Review composed of members of Congress exercising power over "key operational decisions" of airports in the Washington, D.C. area.[20] The root of the problem, according to Justice

16. *See, e.g.*, 17 U.S.C. § 115(b)(1) (2010) (authorizing the Register of Copyrights to prescribe certain regulations related to compulsory licenses for the distribution of phonorecords); *id.* § 111(d) (authorizing the Register of Copyrights to prescribe certain regulations related to mechanics of the royalty regime for so-called "Secondary transmissions by cable systems"); *see also* Interim Rule and Request for Comments, Compulsory License for Making and Distributing Phonorecords, Including Digital Phonorecord Deliveries, Docket No. RM 2000-7, 73 Fed. Reg. 66,173, 66,174–75 (Copyright Office Nov. 7, 2008).

17. *See* sources cited *supra* note 16 and accompanying text; JESSICA LITMAN, DIGITAL COPYRIGHT 55 (2006).

18. *See generally* Harold H. Bruff, *The Incompatibility Principle*, 59 ADMIN. L. REV. 225 (2007); *see also* Matthew J. Tanielian, Comment, *Separation of Powers and the Supreme Court: One Doctrine, Two Visions*, 8 ADMIN. L. REV. AM. U. 961, 1001–02 (1994). These cases are also described as establishing an "anti-aggrandizement" principle. *See* Dellinger Memo, *supra* note 3, at 521–23.

19. Another constitutional concern related to Copyright Office policymaking is rooted in Article II's Appointments Clause. *See, e.g.*, *SoundExchange*, 571 F.3d at 1226–27 (Kavanaugh, J., concurring); *Intercollegiate Broad. Sys.*, Case No. 11-1083. That objection challenges the legitimacy of the appointment of delegates of the Librarian of Congress, rather than the permissibility of Copyright Office rulemaking in itself.

20. 501 U.S. 252, 277 (1991); *see also* Stephen Calabresi & Kevin Rhodes, *The Structural Constitution: Unitary Executive, Plural Judiciary*, 105 HARV. L. REV. 1153, 1167 n.62 (1992) (describing *Metropolitan Washington* as "formalist"). A more recent case, *Free Enterprise Fund v.*

Stevens's analysis for the majority, was that the Board constituted an "agent" of Congress, in that it was "an entity created at the initiative of Congress, the powers of which Congress has delineated, the purpose of which is to protect an acknowledged federal interest, and membership in which is restricted to congressional officials."[21] In light of the Board's status as a congressional "agent," its constitutional fate was effectively sealed; although the Board's responsibilities might reasonably have been characterized as either "executive" (in that it executed responsibility delegated by Congress) or "legislative" (in that it could effectively legislate the policies of the regional airport authority), either classification raised a separation-of-powers problem.[22] "If the power is executive," the Court wrote, "the Constitution does not permit an agent of Congress to exercise it. If the power is legislative, Congress must exercise it in conformity with the bicameralism and presentment requirements of Article I, § 7."[23]

Metropolitan Washington represented a triumph of the separation-of-powers theory that Justice Stevens had articulated previously in his concurrence in *Bowsher v. Synar*.[24] In that case, the Court's majority reasoned that provisions of the Gramm-Rudman-Hollings Act, assigning important budgetary responsibilities to the U.S. Comptroller General, were unconstitutional because Congress had usurped the President's proper role.[25] The particular functions the Comptroller played in the statutory scheme were executive, yet Congress had made itself, rather than the President, responsible for

Public Company Accounting Oversight Board, is relevant to the same issues inasmuch as it embraces principles previously articulated in *Metropolitan Washington*, *Chadha*, and *Bowsher*. *See* 130 S. Ct. 3138, 3156 (2010). *Free Enterprise Fund*, though, concerns the constitutionality of an effort to insulate the leaders of a regulatory agency from *both* congressional and executive control. *See id.* at 3147, 3162. The *Metropolitan Washington* line of cases, by contrast, deals with regimes in which Congress has endeavored to assert or maintain control *for itself* of an administrative agency or another regulatory actor.

21. Metro. Wash. Airports Auth. v. Citizens for Abatement of Aircraft Noise, 501 U.S. 251, 269 (1991).

22. *Id.* at 269–76.

23. *Id.* at 276.

24. 478 U.S. 714 (1986).

25. *Id.* at 734 ("Congress in effect has retained control over the execution of the Act and has intruded into the executive function. The Constitution does not permit such intrusion."). The Comptroller General heads the federal Government Accountability Office, formerly called the General Accounting Office, which is "an instrumentality of the United States Government independent of the executive departments." *Id.* at 715 (quoting 31 U.S.C. § 702(a) (2010)).

supervising his performance via a statutory requirement that the Comptroller could be removed from office only by joint resolution of both houses.[26]

Justice Stevens agreed that the Comptroller General's role in the statutory framework was constitutionally impermissible, but offered a different reason why. He explained:

> I am convinced that the Comptroller General must be characterized as an agent of Congress . . . ; that the powers assigned to him under the . . . Act require him to make policy that will bind the Nation; and that, when Congress, or a component or an agent of Congress, seeks to make policy that will bind the Nation, it must follow the procedures mandated by Article I of the Constitution—through passage by both Houses and presentment to the President."[27]

The problem, in other words, was not that Congress had "aggrandized" itself at the executive's expense; it was instead that Congress had effectively attempted to make law using a procedure other than the one the Constitution prescribes.[28]

Both *Metropolitan Washington* and Justice Stevens's *Bowsher* concurrence draw doctrinal support from *Immigration & Naturalization Service v. Chadha*.[29] There, the Court held unconstitutional the "one-house veto"—Congress's practice of reserving the right to overrule certain administrative agency actions by resolution of either the House or the Senate.[30] *Chadha* reasoned that because the House's attempted use of the veto to overturn a decision of the Attorney General (suspending a particular alien's deportation) "was essentially legislative in its character and effect," the Constitution required that Article I's bicameralism and presentment procedures be followed.[31] In his *Bowsher* concurrence, Justice Stevens quoted *Chadha* to argue that "[i]f Congress were free to delegate its policymaking authority to one of its components, or to one of its agents, it would be able to evade 'the carefully

26. *Bowsher*, 478 U.S. at 720. The statute did not, of course, foreclose the constitutional process of impeachment. *See* U.S. CONST. art. II, § 4.

27. *Bowsher*, 478 U.S. at 737 (Stevens, J., concurring).

28. Justice Stevens distinguished the delegation to the Comptroller General from run-of-the-mill delegations by Congress to entities *outside* Article I, thus shielding the bulk of the federal bureaucracy from constitutional condemnation under his theory. "[I]t is well settled that Congress may delegate legislative power to independent agencies or to the Executive," he wrote, but "when it elects to exercise such power itself, it may not authorize a lesser representative of the Legislative Branch to act on its behalf." *Id.* at 757–58.

29. 462 U.S. 919 (1983).

30. *Id.* at 959.

31. *Id.* at 952.

crafted restraints spelled out in the Constitution.' "[32] That same passage then made its way into Justice Stevens's opinion for the Court in *Metropolitan Washington*, as a footnote supporting the blanket assertion that "Congress may not delegate the power to legislate to its own agents."[33]

The upshot of the *Chadha/Bowsher/Metropolitan Washington* trilogy is a straightforward rule: when Congress "makes binding policy, it must follow the procedures prescribed in Article I.' "[34] A "congressional agent" may not " 'set policy that binds the Nation. Rather than turning the task over to its agent, if the Legislative Branch decides to act with conclusive effect, it must do so through . . . enactment by both Houses and presentment to the President.' "[35] To be sure, the Court's contemporary separation-of-powers opinions have been widely criticized.[36] But, as Harold Bruff has written, the doctrine in this narrow area is unambiguous: "[T]he courts have made it clear that Congress may not administer the law it enacts, either directly through its own members . . . or indirectly by appointing persons who thereby become its agents."[37]

C. IMPLICATIONS FOR THE COPYRIGHT OFFICE

1. *Past Assessments*

It is far from novel to suggest that it may be constitutionally problematic for the Copyright Office to exercise rulemaking authority. The Department of Justice's Office of Legal Counsel ("OLC") effectively concluded as much in a 1996 memorandum assessing constitutional limits on the separation of powers between the legislative and executive branches (widely known as the "Dellinger Memo," for its attributed author, former OLC head, Walter

32. *Bowsher*, 478 U.S. at 755 (Stevens, J., concurring) (citing *Chadha*, 462 U.S. at 959).

33. Metro. Wash. Airports Auth. v. Citizens for Abatement of Aircraft Noise, 501 U.S. 251, 275 n.20 (1991).

34. *Id.* at 274 n.19 (quoting *Bowsher*, 478 U.S. at 758 (Stevens, J., concurring).

35. *Id.* (quoting *Bowsher*, 478 U.S. at 758–59 (Stevens, J., concurring)).

36. *See, e.g.*, Bruff, *supra* note 18, at 225 ("American legal scholars, after examining our separation of powers jurisprudence, have deemed it a mess."); A. Michael Froomkin, *The Imperial Presidency's New Vestments*, 88 NW. U. L. REV. 1346, 1366 (1994) ("There is general agreement that the Supreme Court's separation of powers decisions are hopelessly contradictory . . . ."); Rebecca Brown, *Separated Powers and Ordered Liberty*, 139 U. PA. L. REV. 1513, 1517 (1991) (discussing the "[u]nanimity among constitutional scholars" on the point that "the Supreme Court's treatment of the constitutional separation of powers is an incoherent muddle"); *Bowsher*, 478 U.S. at 759 (White, J., dissenting) ("[T]he Court's recent efforts to police the separation of powers have rested on untenable constitutional propositions leading to regrettable results.").

37. Bruff, *supra* note 18, at 256.

Dellinger).[38] In a section entitled "The Paradox of Congressional Agencies," the memo noted that entities like the Smithsonian Institution, the Office of the Architect of the Capitol, and indeed the Library of Congress, "exercise authority that seems incompatible or at least difficult to reconcile with the Supreme Court's anti-aggrandizement decisions."[39] The analysis sounded a cautionary note for *prospective* Article I "aggrandizements," in particular. "[W]e think it highly doubtful," Dellinger wrote, "that Congress constitutionally could create new legislative agencies with operational powers, or afford existing agencies novel powers, with respect to executive officials or private persons."[40]

The passage of the DMCA in 1998 sparked a flurry of concern over the constitutionality of a new policymaking delegation involving the Copyright Office. The statute required (and indeed still requires) the Copyright Office to conduct triennial rulemaking proceedings concerning exceptions to the Act's anti-circumvention provisions,[41] generating recommendations to be ratified as law by the Librarian of Congress—an arrangement which, several commentators have pointed out, seems constitutionally questionable under the *Bowsher* line of cases.[42] President Clinton was, evidently, sufficiently

38. Dellinger Memo, *supra* note 3.

39. *Id.* at 562 (referring to the *Bowsher* line of cases).

40. *Id.* at 563. The qualifier "with respect to executive officials or private persons" distinguishes away legislative agency responsibilities which are "in aid of the legislative process," and therefore permissible under *Springer v. Government of the Philippine Islands*, 277 U.S. 189, 202 (1928). *See* Dellinger Memo, *supra* note 3, at 563. The memo found the scope of the existing entities' responsibilities circa 1996 to be "constitutionally harmless" in light of "the historical lineage of, and long-standing acquiescence of Presidents in, these legislative agencies." *Id.* As to the Copyright Office in particular, Dellinger mentioned only that the (now defunct) Copyright Royalty Arbitration Panels were permissible under the theory of the *Bowsher* majority opinion; he inferred that the President retained "the formal power to remove the Librarian [of Congress, who oversaw the panel] at will" from the absence of any statute dictating the circumstances in which the agency head could be fired, and by whom—which in turn meant that Congress had not encroached on the executive's freedom to carry out tasks assigned by the legislature. *Id.*

41. 17 U.S.C. § 1201(a)(1)(C) (2010). *See infra* Section III.A for more details.

42. *See* Julie E. Cohen, *WIPO Copyright Treaty Implementation in the United States: Will Fair Use Survive?*, 21 EUR. INTELL. PROP. REV. 236 (1999) (noting, in a discussion citing *Bowsher*, that portions of the DMCA regime "may violate the constitutionally mandated separation of powers"); JeanAne Marie Jiles, Comment, *Copyright Protection in the New Millennium: Amending the Digital Millennium Copyright Act To Prevent Constitutional Challenges*, 52 ADMIN. L. REV. 443, 446 (2000). It should be said that Jiles's analysis of *Bowsher* elides distinctions between the concurrence by Justice Stevens, which is not binding precedent, and the majority opinion, which is—but which embraces a different rationale altogether from the Stevens opinion. Moreover, *Whitman v. American Trucking Ass'n*, 531 U.S. 457, 473 (2001), has now foreclosed Jiles's argument that the DMCA's delegation to the Librarian of Congress is unconstitutional for failing to state an intelligible principle.

concerned that he included the following remarks in a "signing statement" accompanying his formal approval of the DMCA bill: "I am advised by the Department of Justice that certain provisions of H.R. 2281 and the accompanying Conference Report regarding the Register of Copyrights raise serious constitutional concerns. Contrary to assertions in the Conference Report, the Copyright Office is, for constitutional purposes, an executive branch entity."[43]

The next Section discusses the plausibility of the President's position. The point here is simply that prominent legal actors have recognized the danger that separation-of-powers principles might preclude the Copyright Office from effectively making substantive policy decisions.[44]

2. *Applying the Court's Doctrine*

In the terminology of *Metropolitan Washington*, Congress may not delegate the authority to "set policy that binds the nation" to the Copyright Office if the Copyright Office is an "agent" of Congress.[45] There are two principal arguments why this doctrine does *not* present a separation-of-powers obstacle to Copyright Office rulemaking, notwithstanding the concerns discussed in the preceding Section: first, the claim that the Copyright Office should not be considered part of the legislative branch at all for constitutional purposes; and second (and more plausibly), the claim that even if the Copyright Office does sit in the legislative branch, it does not fall within the class of "agents" of Congress that *Metropolitan Washington* condemns.[46]

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43. William J. Clinton, Statement on Signing the Digital Millennium Copyright Act, 2 PUB. PAPERS 1902 (Oct. 28, 1998), *available at* http://1.usa.gov/KL9h4U. The statement continues: "Accordingly, the Congress may exercise its constitutionally legitimate oversight powers to require the Copyright Office to provide information relevant to the legislative process. However, to direct that Office's operations, the Congress must act in accord with the requirements of bicameralism and presentment prescribed in Article I of the Constitution." *Id.*

44. *See also* C.H. Dobal, Note, *A Proposal To Amend the Cable Compulsory License Provisions of the 1976 Copyright Act*, 61 S. CAL. L. REV. 699, 722 (1988) (arguing that the Register of Copyright's administration of the Copyright Act's cable compulsory licensing scheme is unconstitutional under *Bowsher*). In late 2006, a cellular phone company filed suit alleging, inter alia, that the Librarian of Congress's rulemaking authority under the DMCA violates the constitutional separation of powers doctrine. *See* Complaint at 11, Tracfone Wireless, Inc. v. Billington, No. 06-22942 (S.D. Fla. Dec. 5, 2006), *available at* http://w2.eff.org/IP/DMCA/tracfone_v_billington_complaint.pdf. The suit settled shortly thereafter. *See* Stipulation of Dismissal at 1, *Tracfone*, No. 06-22942 (June 1, 2007).

45. *See supra* Section II.B.

46. *Cf.* Hechinger v. Metro. Wash. Airports Auth., 36 F.3d 97, 100 (D.C. Cir. 1994), *cert denied*, 513 U.S. 1126 (1995) ("Following the approach adopted by the Supreme Court in [*Metropolitan Washington Airports Authority v. Citizens for Abatement of Aircraft Noise, Inc,* 501 U.S. 252, 264–70 (1991)], we first determine whether the Board is an agent of Congress.").

a) Is the Copyright Office Really a Legislative Branch Agency?

President Clinton's assertion that the Copyright Office is, "for constitutional purposes," part of the executive branch does have some support—albeit of questionable ongoing validity—in the case law. In 1978, the Fourth Circuit addressed a challenge to the denial of copyright registration for a typeface design, based partly on the argument that the Copyright Office could not constitutionally issue regulations defining registrable "work[s] of art" (and excluding typefaces therefrom) because of its status as a legislative, rather than executive, agency.[47] Affirming the district court's dismissal of the suit, the appellate panel in *Eltra Corp. v. Ringer* explained that the Copyright Office's functions, rather than its formal location in the federal government, determined what kind of entity it was. Because its operations were "executive or administrative," the court wrote, "the Copyright Office is an executive office"—adding that it was "irrelevant that the Office of the Librarian of Congress is codified under the legislative branch or that it receives its appropriation as part of the legislative appropriation."[48]

For a number of reasons, however, both President Clinton's signing statement and *Eltra* are likely wrong to conclude that for separation-of-powers purposes, the Copyright Office is not part of the legislative branch at all. A district court in the Third Circuit planted itself in that skeptical camp in *United States v. Brooks*, which explicitly rejected *Eltra*'s analysis, albeit outside the context of a constitutional challenge.[49] Federal prosecutors had alleged

Hechinger was the follow-on case to the Supreme Court's *Metropolitan Washington* decision. In response to the Court's ruling, Congress had changed the rules governing membership in the regional airport authority Board of Directors. The D.C. Circuit concluded that the changes were insufficient to remedy the separation-of-powers problem, and the Supreme Court denied certiorari.

47. Eltra Corp. v. Ringer, 579 F.2d 294, 298 (4th Cir. 1978). *Eltra* predates *Chadha* by five years.

48. *Id.* at 301. It bears mention that the court prefaced its analysis of the constitutional question by describing what it perceived to be a few oddities about the case—including that appellant's counsel seemed to be testing a theory that he had previously articulated in a law review article, and that the suit effectively amounted to "a belated challenge to the 1909 revision of the Copyright Act and an attempt to confine the Register to the narrow range of duties exercised by him prior to the 1909 Act." *Id.* at 299. The latter observation inspired the court to remark that "it seems incredible that, if there were a constitutional infirmity in the 1909 Act, it would have so long escaped notice by either the Supreme Court or the bar"—in a sense presaging the "historical lineage" argument that the Dellinger memo would make eighteen years later. *Id.*; *see supra* note 40.

49. *See* United States v. Brooks, 945 F. Supp. 830, 833 (E.D. Pa. 1996) ("The status of the Copyright Office is an open question in the Third Circuit, and I do not find *Eltra* persuasive.").

that a cable television executive lied in several filings with the Copyright Office, and charged him with violations of 18 U.S.C. § 1001—a statute that the Supreme Court had held prohibited false statements to executive branch agencies, but not to other divisions of government.[50] The Department of Justice expressly advocated the position that "the Copyright Office is part of the executive branch," but the court was not persuaded.[51] "Acting similarly to an executive agency is not the same as being part of the executive branch," Chief Judge Cahn wrote, embracing a straightforward syllogism: "The Copyright Office is a division of the Library of Congress, which is a part of the legislative branch, and thus the Copyright Office is a part of the legislative branch."[52]

Brooks illustrates one problem with the argument that the Copyright Office is an executive agency: the claim rests on a legal fiction. Notwithstanding the suggestion in *Eltra* that the Copyright Office's classification as executive or legislative might depend on what the agency does, it is not an open question which branch the Copyright Office actually sits in.[53] President Clinton's DMCA signing statement does not, of course, purport to effect a reorganization of government. It simply asserts a legal interpretation: the Copyright Office is an executive agency merely "for constitutional purposes."[54] To be sure, legal fictions do exist (and occasionally thrive) in American constitutional law.[55] But it seems safe to say that the Clinton/*Eltra* argument suffers to some degree from its dependence on a constitutional conclusion at odds with facts in the world.

More importantly, the argument that the Copyright Office is "an executive branch entity" because it acts like an executive agency seems inconsistent with the Court's reasoning in *Bowsher* and *Metropolitan Washington*.

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50. *Id.* at 830–31.

51. *Id.* at 833–34.

52. *Id.* at 834.

53. *See* 17 U.S.C. § 701(a) (2010) (establishing that the Register of Copyrights directs "the Copyright Office of the Library of Congress" and is supervised by the Librarian of Congress); 2 U.S.C. § 171(1) (2010) (noting that Congress "established *for itself* a Library of Congress") (emphasis added); Leon Ulman, Assistant Att'y Gen., Application of the Privacy Act to the Personnel Records of Employees in the Copyright Office, 4B U.S. OPINIONS OFF. LEGAL COUNSEL 608, 610 (1980) ("The Copyright Office . . . is a part of the Library of Congress. It has been firmly established that the Library of Congress, and consequently its subdivision the Copyright Office, are in the legislative and not in the executive branch of the government."); *see also* Jiles, *supra* note 42, at 455 n.66 (collecting examples from case law asserting that the Copyright Office is part of the legislative branch).

54. *See supra* note 43 and accompanying text.

55. *See, e.g.*, Idaho v. Coeur d'Alene Tribe of Idaho, 521 U.S. 261, 269 (1997) (describing the "fictional distinction" at the heart of the *Ex parte Young* exception to Eleventh Amendment sovereign immunity).

Bowsher famously embraced a "formalistic approach to separation-of-powers issues grounded in the perceived necessity of maintaining three distinct branches of government ([leading the Court] to draw rather sharp boundaries) . . . ."[56] *Eltra*'s decidedly functionalist means of classifying the Copyright Office is hard to reconcile with *Bowsher*'s rigidity.[57] Like *Bowsher*, *Metropolitan Washington* condemned an arrangement that was arguably harmless in itself[58] but that established "a blueprint for extensive expansion of the legislative power beyond its constitutionally confined role."[59] The Clinton/*Eltra* position that the Copyright Office might permissibly execute delegated rulemaking authority because it somehow enjoys executive branch status "for constitutional purposes" appears untenable in light of that dictum; the legally fictitious reclassification of a legislative agency seems a "blueprint" for impermissible "expansion of legislative power" if ever there was one.

b) Is the Copyright Office Congress's "Agent"?

The second principal argument for the constitutional permissibility of Congress's delegating rulemaking authority to the Copyright Office—the contention that the Copyright Office is not an "agent" of Congress for separation-of-powers purposes even if it is an agency that sits within Congress—is more plausible, but suffers several important weaknesses.

To begin, it is worth highlighting a little-noticed discord in the literature regarding which part of the Court's doctrine would condemn Copyright Office rulemaking. At least three commentators have cited mainly or exclusively to *Bowsher* for the proposition that the Constitution might or likely would forbid the Copyright Office from engaging in rulemaking or rate-setting.[60] Yet, as the Dellinger Memo suggests, *Bowsher*'s holding arguably does nothing to prevent the Copyright Office from setting policy that binds the public, for the simple reason that the President may apparently fire at will the Librarian of Congress, who oversees the Register of

56. Peter L. Strauss, *Formal and Functional Approaches to Separation-of-Powers Questions—A Foolish Inconsistency?*, 72 CORNELL L. REV. 488, 489 (1987).

57. *See id.* at 502 (noting Justice White's characterization of the *Bowsher* majority's position as "rigid dogma"); Dobal, *supra* note 44, at 720 ("The persuasiveness of the fourth circuit's argument in [*Eltra*] has been significantly undermined by the Supreme Court's decision in *Bowsher v. Synar*.").

58. *See* Metro. Wash. Airports Auth. v. Citizens for Abatement of Aircraft Noise, 501 U.S. 252, 286 (1991) (White, J., dissenting) (noting that neither Congress nor the executive branch opposed the Board of Review that the Court found unconstitutional).

59. *Metro. Wash.*, 501 U.S. at 277; *see also* Free Enter. Fund v. Pub. Co. Accounting Oversight Bd., 130 S. Ct. 3138, 3156 (2010) (approvingly reciting this passage from *Metropolitan Washington*).

60. *See* sources cited *supra* notes 42, 44.

Copyrights.[61] The particular constitutional infirmity that the *Bowsher* majority found in the Gramm-Rudman-Hollings Act—that Congress had impermissibly "retained control over the execution of the Act" by virtue of statutory restrictions on the regulatory actor's removal—does not pertain to the Copyright Office at all.[62]

It is *Metropolitan Washington*—and the reasoning from Justice Stevens's *Bowsher* concurrence that *Metropolitan Washington* incorporates—that lends real credence to the suggestion that separation-of-powers doctrine might prohibit the Copyright Office from executing rulemaking authority to the same extent as bona fide executive agencies or independent regulatory commissions. For the operative logic in *Metropolitan Washington*, unlike in *Bowsher*, does not turn on the presence or absence of removal restrictions that give Congress rather than the President effective authority over the key player in a regulatory regime.[63] That said, the holding of *Metropolitan Washington* condemned a delegation to members of Congress—who are clearly not subject to termination by the President and so are outside his political control—rather than a delegation to a political appointee. Could the head of a legislative agency, like the Register of Copyrights or the Librarian of Congress, simultaneously be subject to at-will firing by the President (or by a superior officer subject to at-will firing by the President) *and* constitute an "agent" of Congress to whom policymaking delegations are prohibited?

The answer could be yes.[64] First, the persuasive authority of Justice Stevens's *Bowsher* concurrence suggests that a regulatory actor may serve two discrete supervisors—both Congress and the executive—and still count as a congressional "agent" in the relevant sense. "Obligations to two branches are not . . . impermissible," Justice Stevens wrote, "and the presence of dual obligations does not prevent the characterization of the official with the dual obligations as part of one branch."[65] It would follow from that principle that

61. For more on Dellinger's theory, see *supra* note 40. The Librarian of Congress is appointed by the President with the Senate's advice and consent. *See* 2 U.S.C. § 136 (2010); *Free Enter. Fund*, 130 S. Ct. at 3161 ("Under the traditional default rule, removal is incident to the power of appointment."). The Register of Copyrights, in turn, is appointed by the Librarian of Congress, and is subject to the Librarian of Congress's "general direction and supervision." *See* 17 U.S.C. § 701(a) (2010).

62. *See* Bowsher v. Synar, 478 U.S. 714, 734 (1986).

63. *See supra* Section II.B.

64. *Cf.* Hechinger v. Metro. Wash. Airports Auth., 36 F.3d 97, 101 (D.C. Cir. 1994) (concluding that the revamped airport authority board remained Congress's "agent" even though its members "are no longer required to be Members of Congress, and . . . may now be removed for cause by the Directors").

65. *Bowsher*, 478 U.S. at 746 (Stevens, J., concurring). The Comptroller General was in many respects beholden to the President as well as Congress, but the fact that he was not an

the Register of Copyrights might be a proscribed congressional "agent" even though she and her superior, the Librarian of Congress, both effectively serve at the pleasure of the President.

Second, the argument that the Copyright Office is Congress's "agent" has more going for it than just the entity's location in the federal government. Although the President appears to retain the ability to influence the Register of Copyrights *indirectly* with the threat of firing her supervisor, Congress has the statutory authority to *directly* dictate at least a portion of the Copyright Office's agenda and activities. 17 U.S.C. § 701(b)(5) provides straightforwardly that in addition to an itemized list of duties, "the Register of Copyrights shall perform . . . such other functions as Congress may direct . . . ." Regardless of whether or to what extent Congress actually wields that power, even the latent ability to prescribe the "functions" of the Register of Copyrights affords some measure of influence over the office she runs.[66] If the Copyright Office is to avoid being Congress's "agent" in the doctrinal sense, then it must escape that label despite being not just an agency that formally sits in Congress, but also one unambiguously subject to Congress's orders.[67]

"agent of the Congress in quite so clear a manner as the Doorkeeper of the House" did not salvage the constitutionality of the public-binding responsibilities that Congress had assigned to the Comptroller General, in Justice Stevens's view. *Id.* at 745.

66. Congress does actually exercise supervisory control over the Copyright Office. *See, e.g.*, *U.S. Copyright Office and Sound Recordings as Work Made for Hire, Hearing Before the Subcomm. on Courts and Intellectual Prop. of the H. Comm. on the Judiciary*, 106th Cong. 1 (2000) (statement of Rep. Howard Coble, Chairman) ("The House Judiciary Committee is charged with the responsibility of overseeing the administration and operation of the Copyright Office of the United States. To that end, we will be reviewing the administrative activities and the funding and expenditures of the Copyright Office to ensure that it is utilizing its resources effectively."). To be sure, though, Congress reviews the activities and expenses of countless administrative agencies housed in the executive branch without impermissibly usurping responsibility for those agencies' operations. *See* Lisa S. Bressman, *Procedures as Politics in Administrative Law*, 107 COLUM. L. REV. 1749, 1753 (2007) ("Congress creates agencies . . . and then seeks to control their decisionmaking, just as the President does. In essence, agencies are subject to *two* political principals.").

67. By contrast, the Copyright Office is *not* subject to the prevailing Executive Order establishing principles and procedures for "Regulation and Regulatory Review" for most federal agencies. *See* Exec. Order No. 13,563, 76 Fed. Reg. 3821 (Jan. 21, 2011). That Executive Order identifies the agencies it covers by cross-reference to Executive Order 12,866, which in turn identifies the agencies *it* covers by reference to 44 U.S.C. § 3502 (2010). *See* Exec. Order No. 12,866, § 3(b), 3 C.F.R. 638 (1994). Section 3502, in turn, defines the operative term "agency" to mean, in relevant part, "any *executive* department, military department, Government corporation, Government controlled corporation, *or other establishment in the executive branch of the Government* (including the Executive Office of the President), or any independent regulatory agency . . . ." (emphasis added). The Copyright

Third, a rulemaking delegation to the Copyright Office seems to implicate some of the very normative concerns that the Court has said justifies its formalistic intolerance of putative legislative "encroachments" on executive power. Among the given reasons for the unforgiving holdings in *Metropolitan Washington* and its predecessors is the challenge of *identifying* legislative usurpations of authority that are properly executive. "The legislature 'can with greater facility, mask under complicated and indirect measures, the encroachments which it makes on the co-ordinate departments,' " the *Metropolitan Washington* majority noted, quoting Madison.[68] For that reason, the idea goes, the judiciary must be especially vigilant to nip in the bud even nascent legislative self-aggrandizements at the executive's expense, when they come to courts' attention at all. Consistent with that imperative, the Court has repeatedly articulated the need for aggressive policing of the separation of powers regardless of the apparent harmlessness of any given unorthodox allocation of responsibility between Congress and the executive. As noted above, a legislative self-aggrandizement may be constitutionally untenable if it merely establishes a "blueprint" by which Congress could "use similar expedients to enable its Members or its agents to retain control, outside the ordinary legislative process" of analogous administrative regimes going forward.[69]

To the extent that these really are the Court's guiding principles, a delegation of public-facing rulemaking authority to the Copyright Office apparently poses constitutional problems. If the Court's formalism is dictated by the fear that Congress might "mask" its usurpation of executive authority with "complicated and indirect measures," then Congress's relationship with the Copyright Office should raise judicial hackles. Identifying the line between permissible congressional oversight[70] and impermissible congressional control of an Article I agency, if it can be achieved at all, requires a convoluted exercise in untangling opaque relationships.[71] Whether the combination of the Copyright Office's location in government and Congress's authority to direct the Copyright Office's functions suffices to make it Congress's "agent"—even though the President, not Congress, apparently retains the right to fire the Register of Copyrights' boss, the Librarian of Congress—is a question that probably neighbors, and possibly

Office is, however, generally subject to the Administrative Procedure Act. *See* 17 U.S.C. § 701(e) (2010).

68. Metro. Wash. Airports Auth. v. Citizens for Abatement of Aircraft Noise, 501 U.S. 252, 277 (1991).

69. *Id.*

70. *See* Bressman, *supra* note 66.

71. *See supra* note 66.

enters, the metaphysical realm. But in the face of such uncertainty, the Court's instruction in *Metropolitan Washington* and its predecessors certainly appears to be to err on the side of enforcing strict separation between legislative and executive responsibilities, even at the cost of condemning perfectly "workable" regulatory arrangements.[72]

Commentators have been hesitant to take the Court's justifications of its separation-of-powers jurisprudence at face value, largely because different and seemingly conflicting principles of constitutional interpretation have won majority support across a range of cases in this area.[73] Even so, the alternative explanatory frameworks that dot the law review literature also, at least in several notable instances, confirm that the Court tends not to look kindly on apparent congressional power plays. Michael Froomkin has argued that the following basic rule distinguishes the cases in which the Court has adopted a stricter, formalist separation-of-powers jurisprudence from those in which it has taken a more functionalist, permissive approach:

> Overall, the Court's decisions fit a pattern in which Congress's power to check the other branches by determining their structure is very great, but Congress is checked by the requirements that it act through persons outside the legislature (which usually means persons in the executive [branch] or the judiciary) and that Congress not aggrandize its own powers.[74]

Froomkin's discussion does not, of course, focus on the question of whether the head of an Article I agency counts as a person "outside the legislature" or not. But his comprehensive assessment of the Court's seemingly inconsistent doctrines suggests that formalism prevails where concern for congressional self-dealing is strongest.[75]

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72. *See Metro. Wash.*, 501 U.S. at 276.

73. *See* Froomkin, *supra* note 36, at 1368 (distinguishing formalist opinions including, among others, *Buckley v. Valeo*, 424 U.S. 1 (1976), *Chadha*, *Bowsher*, and *Metropolitan Washington* from functionalist opinions including, among others, *Morrison v. Olson*, 487 U.S. 654 (1988), *Commodity Futures Trading Commission v. Schor*, 478 U.S. 833 (1986), and *Mistretta v. United States*, 488 U.S. 361 (1991)).

74. Froomkin, *supra* note 36, at 1368.

75. The term "self-dealing" is particularly appropriate in the substantive area of copyright law, where the available evidence suggests that Congress's delegating policymaking authority to the Copyright Office is occasionally motivated by an interest in expected campaign donations to the congressional committees that oversee it. *See* LITMAN, *supra* note 17, at 144 (suggesting that the DMCA's delegation of rulemaking authority to the "Librarian of Congress in consultation with the Copyright Office and the Commerce Department" would result in both "Commerce and Judiciary Committee jurisdiction and the associated generous campaign contributions").

Abner Greene offers a similar unifying theory: "Congress may give away legislative power and insulate such delegated power from total presidential control, but Congress may neither draw executive power to itself nor seek to legislate outside the Article I, Section 7 framework."[76] Again, Greene has not weighed in on the issue whether Copyright Office rulemaking, in particular, amounts to Congress's "draw[ing] executive power to itself." The point is simply that a range of commentators has cautioned that when the Court is confronted with arrangements in which Congress seems to have arrogated to itself classically executive responsibility, the result has typically been unfavorable to Congress.

A comprehensive review of commentary on the Supreme Court's separation-of-powers jurisprudence is outside the scope of this Article. Broadly speaking, though, this much can be said of the contention at issue in this Section—that the Copyright Office can permissibly execute public-facing rulemaking authority on the ground it is not the kind of "agent" of Congress that *Metropolitan Washington* condemns: the argument appears to some degree inconsistent, not only with the Court's doctrine taken on its own terms, but also with alternative explanatory paradigms that some theorists have proposed.

By the same token, however, it bears repeating that neither *Bowsher* nor *Metropolitan Washington* confronts rulemaking by an Article I actor whom the President may effectively fire at will. And in light of longstanding, widespread dissatisfaction with the "barren literalism"[77] that pervades *Chadha* and its progeny, a reform-minded court might find a determinative constitutional significance in the fact that the Register of Copyrights is directly subject to a powerful form of executive control, unlike the analogous Article I actors in past cases. In other words, as a predictive rather than a normative matter, while a court inclined to hold Copyright Office rulemaking unconstitutional would have no trouble doing so, a court with more functionalist leanings might find grounds on which to distinguish away seemingly problematic precedent.

In conclusion, the line of Supreme Court decisions discussed here—imposing harsh limits on even minor legislative "encroachments" into the realm of executive responsibility, and strictly forbidding Congress or its agents from making rules that bind the public by any means other than those prescribed in Article I, § 7—presents the possibility of a genuine

76. Abner S. Greene, *Checks and Balances in an Era of Presidential Lawmaking*, 61 U. CHI. L. REV. 123, 126 (1994) (emphasis omitted).

77. E. Donald Elliot, *Why Our Separation of Powers Jurisprudence Is So Abysmal*, 57 GEO. WASH. L. REV. 506, 522 (1989).

constitutional problem for a rulemaking delegation to an agency that is itself formally a subsidiary to Congress rather than the President. Unless and until the Court changes or clarifies its separation-of-powers jurisprudence, a prospective grant of rulemaking authority to the Copyright Office would be, at the very least, a risky proposition.[78] Moreover, as dissatisfaction with the method and substance of the Copyright Office's DMCA rulemaking proceedings grows,[79] a sustained constitutional challenge in a federal court to that existing regime becomes more likely.[80]

III. IMPLICATIONS FOR THE DMCA'S ANTI-CIRCUMVENTION REGIME

The preceding analysis addresses whether rulemaking by the Copyright Office, as a general matter, is constitutionally permissible. This Part considers implications of that analysis for the rulemakings presently carried out under the DMCA's anti-circumvention provisions. The argument here is that if the DMCA's rulemaking regime is unconstitutional, the proper remedy would be to invalidate not just the rulemaking regime, but also (at a minimum) the rulemaking regime's statutory parent—the blanket ban on circumventing technological protection measures ("TPMs") that prevent access to copyrighted works codified in 17 U.S.C. § 1201(a)(1)(A).

A. FRAMING THE SEVERABILITY ISSUE: THE ROLE OF THE RULEMAKING REGIME IN THE DMCA'S ANTI-CIRCUMVENTION RULES

The discussion that follows requires a more detailed overview of the DMCA's anti-circumvention regime and the Copyright Office's role in it. In 1998, as part of a larger legislative compromise between the telecommunications and computer industries, on the one hand, and copyright's "content" industries, on the other, Congress passed a statute that added legal fortification to the otherwise purely technological tools that content industries deploy to protect certain copyrighted materials they

78. As noted at the outset, several commentators have proposed expanding Copyright Office rulemaking authority as an alternative to policymaking by the legislature as a whole. *See* sources cited *supra* note 2.

79. *See, e.g.*, Elizabeth F. Jackson, *The Copyright Office's Protection of Fair Uses Under the DMCA: Why the Rulemaking Proceedings Might Be Unsustainable and Solutions for Their Survival*, 58 J. COPYRIGHT SOC'Y U.S.A. 521 (2011).

80. *Cf.* Complaint, Tracfone Wireless, Inc. v. Billington, No. 06-22942 (S.D. Fla. Dec. 5, 2006), *available at* http://w2.eff.org/IP/DMCA/tracfone_v_billington_complaint.pdf, discussed *supra* note 44.

produce.[81] The new provisions made it illegal to "circumvent a technological measure that effectively controls access to a [copyrighted] work," and (separately) to traffic in tools that allow others to carry out such circumventions.[82] Not only would breaking through a digital rights management wrapper to listen to a song or watch a movie be technologically daunting, but the circumvention would also be illegal, separate and apart from any copyright infringement incident to the same acts.

Congress subjected the DMCA's flat ban on circumventing TPMs to two kinds of exceptions. First, the statute enumerates certain specific acts of circumvention that are allowed, notwithstanding the default proscription.[83] Second, it provides for a triennial rulemaking process intended to add incremental exceptions, when warranted, in order to protect the public's rights to make non-infringing uses of works protected by TPMs.[84] More

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81. *See* Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need To Be Revised*, 14 BERKELEY TECH. L. J. 519, 522 (1999) ("It would oversimplify the facts—although not by much—to say that the battle in Congress over the anti-circumvention provisions of the DMCA was a battle between Hollywood and Silicon Valley."); Timothy Wu, *Copyright's Communications Policy*, 103 MICH. L. REV. 278, 359 (2004).

82. 17 U.S.C. § 1201(a)(1)–(2) (2010). The Statute also proscribes trafficking in tools that circumvent technological measures that impose *copying* restrictions, as opposed to *access* restrictions, *see* § 1201(b)(1)—but does not proscribe the mere act of circumventing copying restrictions. *See* JULIE COHEN ET AL., COPYRIGHT IN A GLOBAL INFORMATION ECONOMY 662 (2010).

83. *See* § 1201(d)–(j) (exempting certain types of encryption research, reverse-engineering, circumventions by law enforcement, and so on).

84. The statute says:

> (C) During the 2-year period [after ratification of the law], and during each succeeding 3-year period, the Librarian of Congress, upon the recommendation of the Register of Copyrights, who shall consult with the Assistant Secretary for Communications and Information of the Department of Commerce and report and comment on his or her views in making such recommendation, shall make the determination in a rulemaking proceeding . . . whether persons who are users of a copyrighted work are, or are likely to be in the succeeding 3-year period, adversely affected by the [blanket circumvention] prohibition under subparagraph (A) in their ability to make noninfringing uses under this title of a particular class of copyrighted works. In conducting such rulemaking, the Librarian shall examine—
>
> (i) the availability for use of copyrighted works;
>
> (ii) the availability for use of works for nonprofit archival, preservation, and educational purposes;
>
> (iii) the impact that the prohibition on the circumvention of technological measures applied to copyrighted works has on criticism, comment, news reporting, teaching, scholarship, or research;

precisely, the point of the rulemaking is to figure out "whether persons who are users of a copyrighted work" are somehow "adversely affected" by the DMCA's blanket circumvention ban in their ability to do "non-infringing" things with the work. If so, then the statutory mandate is to set aside a corresponding "class" of works that will be exempt from the ban for three years.[85]

In practice, the Copyright Office is the agency that carries out the rulemaking.[86] Based on information submitted by interested parties, the Register of Copyrights recommends a set of categorical exemptions for the Librarian of Congress to instantiate into law as carve-outs from the prohibition on circumventing access-control TPMs. And the Librarian of Congress in turn typically (though not invariably) ratifies the recommendations with a cursory statement published in the Federal Register.[87] In the rulemaking that concluded in the summer of 2010, six exempted "classes" of works made their way into the Code of Federal Regulations.[88] The classes are generally defined by reference to particular uses of particular types of work, and draw boundaries between exempted and non-exempted uses at a relatively fine level of granularity. By way of illustrative example, the first class of exempted works in 2010 consisted of movies on lawfully acquired DVDs whose users circumvent TPMs to include

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> (iv) the effect of circumvention of technological measures on the market for or value of copyrighted works; and
>
> (v) such other factors as the Librarian considers appropriate.
>
> (D) The Librarian shall publish any class of copyrighted works for which the Librarian has determined, pursuant to the rulemaking conducted under subparagraph (C), that noninfringing uses by persons who are users of a copyrighted work are, or are likely to be, adversely affected, and the prohibition contained in subparagraph (A) shall not apply to such users with respect to such class of works for the ensuing 3-year period.

§ 1201(a)(1).

85. *Id.*

86. *See* Notice of Inquiry and Request for Comments, Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies (*Access Control Technologies Exemption*), Docket No. RM 2011-7, 76 Fed. Reg. 60,398, 60,398 (Copyright Office Sept. 29, 2011) ("The United States Copyright Office is preparing to conduct proceedings in accordance with provisions added by the Digital Millennium Copyright Act . . . .").

87. *See* Final Rule, *Access Control Technologies Exemption*, Docket No. RM 2005-11, 71 Fed. Reg. 68,472, 68,479 (Copyright Office Nov. 27, 2006) (ratifying the 2006 recommendations of the Register of Copyrights in a single sentence). *But see* Final Rule, *Access Control Technologies Exemption*, Docket No. RM 2008-8, 75 Fed. Reg. 43,825, 43,838 (Copyright Office July 27, 2010) (rejecting one of the Register of Copyrights' 2010 recommendations).

88. Final Rule, *Access Control Technologies Exemption*, 75 Fed. Reg. at 43,838.

portions of the films in documentaries, in noncommercial videos, or in "[e]ducational uses by college and university professors and by college and university film and media studies students."[89] All told, the 2010 rulemaking process took nearly two years to complete, featuring several rounds of written submissions and counter-submissions and three days of public hearings. The Register of Copyrights' final 2010 recommendation to the Librarian of Congress ran to 262 pages.[90]

The separation-of-powers analysis in Part II, *supra*, addressed rulemaking by the Copyright Office itself, not rulemaking by the Librarian of Congress based on the Copyright Office's recommendation. Assuming that the Copyright Office's role in the DMCA's rulemaking regime is sufficiently insulated from the act of lawmaking to avoid any constitutional problems that might arise from a delegation directly to the Register of Copyrights, the glaring outstanding question is whether a delegation to the Librarian of Congress is any safer. Both the Copyright Office and the Library of Congress are, after all, Article I entities, which raises at least a prima facie constitutional concern.[91] By the same token, neither agency's head is subject to the kind of removal restrictions that offended the Constitution in the Comptroller General statute at issue in *Bowsher*.[92] Yet rulemaking by either the Copyright Office or the Library of Congress poses the risk of a problem under the reasoning of *Metropolitan Washington*, which condemns public-facing lawmaking by any congressional "agent" that purports to shortcut bicameralism and presentment to the executive.[93]

The argument that the Librarian of Congress counts as a proscribed congressional "agent" is roughly the same as the argument that the Register of Copyrights does, differing principally in the statutory mechanics of Congress's control over the agency. The Library of Congress is subject to the oversight of the Congressional Joint Committee on the Library, which consists of ten members of Congress.[94] That Committee clearly exercises

89. *Id.* at 48,839.

90. Letter from Marybeth Peters, Register of Copyrights, to James H. Billington, Librarian of Congress, Recommendation of the Register of Copyrights in RM 2008-8; Rulemaking on Exemptions from Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies (June 11, 2010), *available at* http://www.copyright.gov/1201/2010/initialed-registers-recommendation-june-11-2010.pdf.

91. *See* discussion *supra* Section II.C.1.

92. *See supra* text accompanying notes 60–62.

93. *See supra* Section II.B.

94. *See* 2 U.S.C. § 132b (2010) ("The Joint Committee of Congress on the Library shall . . . consist of the chairman and four members of the Committee on Rules and Administration of the Senate and the chairman and four members of the Committee on House Oversight of the House of Representatives.").

substantial authority over major decisions that the Library of Congress makes.[95] Just as it remains ultimately uncertain whether Congress's statutory power to "direct" the Copyright Office's "functions" suffices to make the Copyright Office Congress's "agent" in the constitutional sense, it is hardly a foregone conclusion that the Congressional Joint Committee's oversight of the Library of Congress creates the kind of agency relationship that *Metropolitan Washington* condemns. It is, however, safe to say that the suite of doctrinal concerns that makes Copyright Office rulemaking constitutionally questionable applies equally to Library of Congress rulemaking. Both raise the specter of an arrangement in which Congress has a closer-than-usual relationship with a regulator housed in the legislative branch and executing public-facing policymaking authority. The Court has tended to treat similar arrangements with a skepticism that verges on hostility.[96]

B. IS THE RULEMAKING FRAMEWORK SEVERABLE FROM THE REST OF THE ANTI-CIRCUMVENTION RULES?

If a court determined that the rulemaking delegation in the DMCA's anti-circumvention provisions were actually unconstitutional, the question of the proper remedy would arise. Should the rest of the anti-circumvention framework simply stand unaffected, even absent the carve-outs Congress intended the Copyright Office to identify and recommend to the Librarian of Congress every three years? Or would it be more faithful to prevailing doctrine to conclude that the DMCA's rulemaking regime is not cleanly severable from the rest of the anti-circumvention provisions—with the result that some broader swath of the statute should be deemed invalid or unenforceable on constitutional grounds? Here, the answer is clearer: the DMCA's anti-circumvention rulemaking regime should not be treated as severable in itself. If the rulemaking regime goes down on constitutional grounds, then at least the blanket proscription against circumventing access-control TPMs goes with it.

When a court finds a portion of a statute unconstitutional, the preferred remedial solution is to "sustain its remaining provisions 'unless it is evident that the Legislature would not have enacted those provisions . . . independently of that which is [invalid].' "[97] More broadly, whether an

95. *See, e.g.*, *Business Meeting, Hearing Before the Joint Comm. on the Library of Congress*, 108th Cong. 6 (2004) (statement of James H. Billington, Librarian of Congress) (discussing plans for initiatives that the Library of Congress "submitted and the Congress approved").

96. *See supra* Section II.C.2.

97. Free Enter. Fund v. Pub. Co. Accounting Oversight Bd., 130 S. Ct. 3138, 3161 (2010) (alteration in original) (quoting Alaska Airlines, Inc. v. Brock, 480 U.S. 678, 684 (1987)).

unconstitutional portion of a statute should be "severed" from the portions that do not in themselves pose constitutional problems is a function of an analysis typically framed as an inquiry into congressional intent: in the hypothetical world in which Congress had recognized ex ante that a portion of its legislation would later be deemed unconstitutional, would Congress nevertheless have proceeded to enact the constitutional portions, absent the unconstitutional one?[98] Although the Supreme Court has recently instructed that a presumption in favor of "severing" the invalid provision is warranted,[99] the presumption can, of course, be overcome with sound evidence that the invalid provision was in some respect a sine qua non of the legislation.[100] As with so many constitutional doctrines, this prevailing approach to severability is hardly free from academic criticism—but the prescribed inquiry into counter-factual legislative outcomes is, for better or worse, the present state of the law.[101]

The DMCA's rulemaking regime was the product of lobbying by digital technology firms, consumer advocacy groups, libraries, and universities, who asserted an interest in preserving the public's historical ability to engage in fair uses of copyrighted works notwithstanding the impending statutory ban on circumventing TPMs. That bloc had sought substantially more robust protections for fair use in the DMCA's anti-circumvention provisions, but its

98. Minnesota v. Mille Lacs Band of Chippewa Indians, 526 U.S. 172, 191 (1999); Kevin Walsh, *Partial Unconstitutionality*, 85 N.Y.U. L. REV. 738, 740 (2010) ("As the doctrinal formula for determining severability reveals, the required inquiry into legislative intent is unlike many other interpretive inquiries, in that it asks what the legislature would have done, not what the legislature actually did."). The inquiry is, of course, somewhat easier when Congress has taken it upon itself to include a "severability" provision in the legislation itself, in anticipation of constitutional challenges, though the Court's prevailing doctrine has it that such provisions create only a rebuttable presumption, not a conclusion, in favor of severability. *See* Michael D. Shumsky, *Severability, Inseverability, and the Rule of Law*, 41 HARV. J. ON LEGIS. 227, 230 (2004). The DMCA contains no severability provision.

99. Historically, the presumption has occasionally run in the other direction. *See* Shumsky, *supra* note 98, at 237 (discussing Carter v. Carter Coal Co., 298 U.S. 238 (1936)).

100. *See Free Enter. Fund*, 130 S. Ct. at 3161; *see also Alaska Airlines v. Brock*, 480 U.S. at 684.

101. *See, e.g.*, John Copeland Nagle, *Severability*, 72 N.C. L. REV. 203, 206 (1993) ("By speculating about what the legislature would have intended if it had considered the question of severability, rather than seeking to determine what the legislature did intend as evidenced by the statute itself, *Alaska Airlines* substitutes an unanswerable question for one applied by the Court in most other statutory construction cases."); Walsh, *supra* note 98, at 741 ("Those who trust the judiciary to work things out by discerning the legislature's unstated intent about a matter it never addressed when legislating can take heart from the current approach to partial unconstitutionality. The rest of us should be concerned. The problem is not simply that severability doctrine vests courts with substantial discretion, but that it does so in an area of the law in which the stakes are high.").

grander ambitions were thwarted by the more powerful lobby of content producers. The rulemaking regime emerged as Congress's preferred balance between the competing sides' interests. To be clear, the contention here is not that the balance Congress struck was a *good* one.[102] As an empirical matter, though, the reason the DMCA's rulemaking regime exists is that certain Senators and Representatives recognized the utility—possibly only the political utility, but the utility just the same—of a visible regulatory safety valve, of sorts, nominally designed to prevent the anti-circumvention access-control rules from altering the effective availability of fair uses too dramatically.[103] And the legislative record suggests that Congress simply would not have passed the anti-circumvention access-control rules without *any* sop, of the kind that the rulemaking regime provided, to fair use advocates.[104]

1. Legislative History

More complete recitations of the legislative history of the DMCA's anti-circumvention rules are available elsewhere.[105] What follows is a narrowly

102. *Cf.* Samuelson, *supra* note 81, at 537–46 (criticizing the statutory carve-outs from the DMCA's act-of-circumvention ban as "unduly narrow").

103. *See generally* H.R. REP. NO. 105-551, pt. 2 (1998).

104. Herman and Gandy argue that the chief reason the rulemaking regime made its way into the final legislation was precisely its likely ineffectiveness as a mechanism for preserving or defending fair uses in the face of the circumvention ban. *See* Bill D. Herman & Oscar H. Gandy, Jr., *Catch 1201: A Legislative History and Content Analysis of the DMCA Exemption Proceedings*, 24 CARDOZO ARTS & ENT. L.J. 121, 147 (2006). The content industries did not thwart its inclusion, the argument goes, largely because they saw it as "only a minor threat." *Id.* Though I agree that the content lobby effectively succeeded in limiting the scope of the exemptions that the rulemaking process could ultimately generate, a more ambitious version of the Herman and Gandy claim seems at best incomplete and at worst overstated. It is hard to believe that, left to its unfettered discretion, Hollywood and the Recording Industry Association of America ("RIAA") would have affirmatively *preferred* a triennial fight to limit the scope of proposed exceptions to the circumvention ban, over no rulemaking regime at all. To the extent that Hollywood and the RIAA backed the rulemaking regime, that strategic decision reflected the political advantage they derived from the legislation's at least appearing to include a mechanism for protecting fair use, going forward.

Regardless, the Herman and Gandy thesis is not inconsistent with the broader one I advocate here. As discussed in more detail in Section III.B.2, *infra*, the notion that the rulemaking regime was effectively embraced by the politically dominant lobbying bloc *supports* the contention that Congress would not have passed the § 1201(a) circumvention ban without the rulemaking regime or something like it.

105. *See, e.g.*, LITMAN, *supra* note 17; David Nimmer, *Appreciating Legislative History: The Sweet and Sour Spots of the DMCA's Commentary*, 23 CARDOZO L. REV. 909 (2002); Samuelson, *supra* note 81.

targeted review of the provenance of the rulemaking provision, in particular.[106]

Five months before it passed Congress, drafts of the DMCA had progressed to the point that the bill, at least in its broader structure, looked roughly like the one that would ultimately become law.[107] By a vote of 99–0, the Senate had endorsed a version that contained, among other things, the three essential anti-circumvention proscriptions that would end up as §§ 1201(a)(1), 1201(a)(2), and 1201(b)(1)—the prohibitions on the act of circumventing access controls and on the distribution of devices for circumventing access controls and copy controls, respectively.[108] The blanket "act" proscription in the then-current § 1201(a)(1) was softened only by four reasonably narrow exceptions and clarifications, codified in § 1201(e)–(k); these provided limited relief for certain non-profit libraries and archives, for law enforcement, and for several other would-be circumventers.[109] But § 1201 contained neither a broad exemption for circumventions of TPMs intended to enable fair uses, nor any formalized procedure for creating new carve-outs from the default circumvention ban going forward.[110] The House bill at the time (late May 1998) looked more or less the same, although it contemplated fewer itemized exemptions than the Senate version did.[111]

From this point on, the history of the rulemaking regime, in a nutshell, is as follows: The House Commerce Committee introduced it in July; it was included in the version of the bill that the full House passed in August; the version of the bill that the full Senate passed in September did not incorporate the House's innovation; and in October 1998, the conference committee adopted a version slightly modified from the one in the House bill. The Conference Report does not explain why the House's preference for an anti-circumvention rulemaking regime carried the day. But—at the risk of tautology—the legislative record leading to that event suggests that Congress opted for a forward-looking mechanism to create limited exemptions from the circumvention ban because omitting one would have been politically unappealing.[112]

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106. For another take on this history, see Herman & Gandy, *supra* note 104.

107. *See* S. REP. NO. 105-90, at 25–62 (1998) (overview of the then-existing draft).

108. *Id.* at 25; LITMAN, *supra* note 17, at 137.

109. *See* S. REP. NO. 105-90, at 31–34.

110. *Id.*

111. *See* H.R. REP. NO. 105-551, pt. 2, at 5 (1998).

112. A finer-grained theory is that Congress opted for a rulemaking delegation, in particular, as the mechanism for identifying needed exemptions from the circumvention ban principally as an accountability-shifting measure. *See* Herman & Gandy, *supra* note 104, at 147 ("[T]his delegation of authority is perfect to effectuate credit claiming and blame

A more detailed history: On June 5, 1998, the House Commerce Committee effectively injected itself into the process of shaping the DMCA.[113] The record of the hearing conducted that day (and the following one) by the Subcommittee on Telecommunications, Trade, and Consumer Protection includes statements from various lobbyists and industry representatives both advocating[114] and opposing[115] broader legislative carve-outs from the draft circumvention ban than either house had been willing to embrace to date. Subcommittee members clearly appreciated both sides of the argument.[116]

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shirking."). Regardless of whether that understanding is right or wrong, the point here is simply that Congress evidently saw a net political advantage in including *an* exemption-creating mechanism in the final bill.

113. Representative Tauzin, presiding over a subcommittee hearing on the latest House version of the bill, explained that although the House Judiciary Committee had been responsible for the draft legislation to date, "the members of the Commerce Committee, and the members of this subcommittee, have unique expertise on technology issues which is unparalleled in the House or other committees." *The WIPO Copyright Treaties Implementation Act*, *Hearing on H.R. 2281 Before the Subcomm. on Telecomms., Trade, and Consumer Prot. of the H. Comm. on Commerce*, 105th Cong. 2 (1998) [hereinafter *Commerce Committee Hearing*].

114. *See, e.g.*, *Commerce Committee Hearing*, *supra* note 113, at 41 (letter from the Consumers Union) ("We urge Members to vote NO on this bill, unless it is amended to permit the fair use of technologically-protected copyrighted materials."); *id.* at 48 (statement of Walter H. Hinton, Computer and Communications Industry Ass'n) ("The approach of H.R. 2281 is to say that circumvention per se should be illegal. 'Circumvention' is a word with an ominous tone. However, there are some very legitimate reasons to circumvent . . . .").

115. *See, e.g.*, *id.* at 43 (statement of Hilary B. Rosen, President and CEO, Recording Industry Ass'n of America) ("Today you are going to hear from a lot of people. . . . One [group] I will call sort of the loophole creators. Those are the ones who support the concept of the bill, they just want a few changes and they justify those loopholes by inventing hypotheticals that may or may not ever come to a reality, but they just need to go to the absurd to justify the loophole."); *id.* at 53–54 (statement of Steven J. Metalitz, Motion Picture Ass'n of America) ("[T]he anti-circumvention provision, section 1201, has been addressed. . . . [Critics'] concerns have been spoken to, provisions have been narrowed for the benefit of libraries, the benefit of schools, the benefit of manufacturers of equipment, the benefit of competitive computer software developers, the benefit of individual Internet users who want to protect their privacy or protect their children against pornography. These changes have been made and we have to again watch the baseline as provided by the [WIPO] treaties to make sure it doesn't slip below it.").

116. *See, e.g.*, *id.* at 3–4 (statement of Rep. Boucher) ("There is no debate about the need to afford adequate protection from theft to creative works. I would also acknowledge that in the digital network environment these works are at greater risk than before. . . . But it is essential that we legislate these new protections for copyright owners in a manner that is narrowly targeted to achieve the intended purpose and in a manner that does not undermine traditional fair use principles. . . . Unfortunately, H.R. 2281, as reported from the House Judiciary Committee, does not meet that test. It intrudes greatly upon the established doctrine of fair use, to the detriment of libraries, universities and potentially every American citizen. . . . For example, the bill prohibits and imposes felony punishment on any circumvention of a technological protection measure. This provision is truly astonishingly

They responded the following month with a series of proposed amendments designed (at least ostensibly) to make the draft anti-circumvention rules less hostile to user privacy and fair use.[117] Among these was an amendment from Representative Klug proposing the first version of a rulemaking regime designed to carve out future exemptions from a blanket ban on circumventing access-control TPMs. It passed the full Commerce Committee by voice vote on July 17, 2008.[118]

This initial version of the anti-circumvention rulemaking program was similar to the one that ultimately made its way into the final version of the DMCA, but differed in one significant respect. Like the final version, it contemplated only temporary exemptions; the exemptions were to be circumscribed by "class of copyrighted work"; they were to be generated through a rulemaking on the record whose purpose was to determine "whether users of copyrighted works have been, or are likely to be . . . , adversely affected by the implementation of technological protection measures that effectively control access to [copyrighted] works"; and the determination was to be made using a prescribed set of five considerations almost identical to the ones in 17 U.S.C. § 1201(a)(1)(C).[119] Unlike the final version, though, the Commerce Committee contemplated delegating

broad. The circumvention does not have to be for the purpose of infringing a copyright for the prohibitions and the criminal penalties of that provision to apply."); *id.* at 7 (statement of Rep. Bliley) ("[W]e need to understand precisely what impact this legislation will have on the, quote, fair use doctrine. Educators and researchers rely on fair use to enrich all of us. Consumers rely on it as well. And I know these groups have concerns with the legislation. We therefore need to explore whether the anti-circumvention provisions reach too broadly . . . ."); *id.* at 6 (statement of Rep. Dingell) ("Another concern that has been raised about this bill, particularly by libraries and electronic—rather, and users of electronic services, as well as academic institutions is that the legislation will greatly diminish the availability of the fair use doctrine, currently well established as a part of copyright law. If that were to happen, I believe it would be extremely unfortunate. The concern of these people stems from the prohibition in the bill against a circumvention of protective features that allow access to copyrighted works. . . . A producer of a creative work does not need to provide access to his or her work to anyone who wants it free of charge. . . . Allowing the public to gain access to the works, without necessary authorizing steps, would strip copyright law of its very essence. These proprietary interests need to be protected. But we must at the same time ensure that the public's fundamental right to make fair use of these works is not diminished in any way.").

117. *See* H.R. REP. NO. 105-551, pt. 2, at 30 (2008).

118. *Id.*

119. *Id.* at 2. In this initial proposed version, the exemptions were to last two years, not the three years that the final version settled on.

rulemaking authority not to the Librarian of Congress, but to the Secretary of Commerce.[120]

The accompanying committee report does not leave to the imagination the *policy*-based (distinct from the political) legislative motivation for adding the rulemaking regime. In two pages under the subject heading, "Fair Use in the Digital Environment," the report explains that the circumvention ban in the preceding version of the House bill threatened to "erode fair use" and "dramatically diminish public access to information."[121] The report continues:

> The Committee on Commerce felt compelled to address these risks, including the risk that enactment of the bill could establish the legal framework that would inexorably create a "pay-per-use" society. At the same time, however, the Committee was mindful of the need to honor the United States' commitment to effectively implement the two WIPO treaties [which served as part of the justification for the anti-circumvention rules], as well as the fact that fair use principles certainly should not be extended beyond their current formulation. The Committee has struck a balance that is now embodied in Section 102(a)(1) [the portion of the bill that consisted of the circumvention prohibition and the rulemaking regime]. The Committee has endeavored to specify, with as much clarity as possible, how the right against circumvention would be qualified to maintain balance between the interests of content creators and information users. The Committee considers it particularly important to ensure that the concept of fair use remains firmly established in the law.[122]

The report goes on to feature a section-by-section analysis of the Commerce Committee's proposed bill, replete with several more pages that discuss the rulemaking regime, in particular. The gist of that discussion is as follows:

> Given the threat of a diminution of otherwise lawful access to works and information, the Committee on Commerce believes that

120. *Compare id.* ("[T]he Secretary of Commerce, in consultation with the Assistant Secretary of Commerce for Communications and Information, the Commissioner of Patents and Trademarks, and the Register of Copyrights, shall conduct a rulemaking on the record to determine whether users of copyrighted works . . . .") *with* 17 U.S.C. § 1201(a)(1)(C) (2010) ("[T]he Librarian of Congress, upon the recommendation of the Register of Copyrights, who shall consult with the Assistant Secretary for Communications and Information of the Department of Commerce and report and comment on his or her views in making such recommendation, shall make the determination in a rulemaking proceeding . . . whether persons who are users of a copyrighted work . . . .").

121. *See* H.R. REP. NO. 105-551, pt. 2, at 25–26 (approvingly quoting an editorial from the *Richmond Times-Dispatch*, and a letter from the Consumers' Union, respectively).

122. *Id.* at 26.

> a "fail-safe" mechanism is required. This mechanism would monitor developments in the marketplace for copyrighted materials, and allow the enforceability of the prohibition against the act of circumvention to be selectively waived, for limited time periods, if necessary to prevent a diminution in the availability to individual users of a particular category of copyrighted materials.
>
> Section 102(a)(1) of the bill creates such a mechanism. It . . . creates a rulemaking proceeding in which the issue of whether enforcement of the [prohibition on the act of circumvention] should be temporarily waived with regard to particular categories of works can be fully considered and fairly decided on the basis of real marketplace developments that may diminish otherwise lawful access to works.
>
> . . .
>
> The primary goal of the rulemaking proceeding is to assess whether the prevalence of these technological protections, with respect to particular categories of copyrighted materials, is diminishing the ability of individuals to use these works in ways that are otherwise lawful.[123]

In sum, the original public rationale for a rulemaking regime in the DMCA's anti-circumvention provisions was clear: the House Commerce Committee concluded that in light of the likely "prevalence of . . . technological protections," "a 'fail-safe' mechanism [was] required . . . to prevent a diminution in the ability of individuals to use [copyrighted] works in ways that are otherwise lawful." The rulemaking regime "creates such a mechanism."[124]

To be sure, various consumer groups and other content-industry opponents had advocated stronger protections for fair use than they would likely receive in a relatively narrow, then-to-be biennial rulemaking process.[125] But as a separate statement by Representatives Klug and Boucher explained later in the Commerce Committee's report, the Klug amendment introducing the regime "represent[ed] a compromise between those on the content side and 'fair use' proponents." Politically, it "was a means to eliminate the stalemate that existed."[126]

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123. *Id.* at 36–37.

124. *Id.*

125. *See, e.g.*, *Commerce Committee Hearing*, *supra* note 113, at 61 (statement of Seth Greenstein, Digital Media Ass'n); *see also* H.R. REP. NO. 105-551, pt. 2, at 2 (noting that the original proposal was for biennial, not triennial, rulemakings).

126. *Commerce Committee Hearing*, *supra* note 113, at 86. The statement continues: "The compromise amendment that Representative Klug ultimately offered at full committee . . .

On August 4, 1998, the full House passed a version of the DMCA that included a rulemaking regime substantially similar to the one in the Klug amendment.[127] Before the vote, Representative Bliley argued that the new version of § 1201(a)(1)—which added the rulemaking process to the blanket circumvention ban[128]—was "one of the most important provisions of this legislation, and one that must be included in any version of this bill eventually sent to the President for signature."[129] Notwithstanding that admonition, in September the Senate again passed its own version of the DMCA that contained neither a rulemaking delegation nor any similar "fail-safe" in its stead (though, to be fair, the bill had been introduced before the August 4th House vote).[130]

The final version of the rulemaking regime emerged, then, in the conference convened to reconcile the House and Senate versions of the DMCA. On the day the conference committee promulgated its report, Senator Ashcroft took to the Senate floor to walk through the version that Congress would send to the President. He explained:

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give[s] 'information users' the ability to argue that the application of technological protection measures adversely impacts their ability to access information. . . . Our expectation is that the rulemaking will also focus on the extent to which exceptions and limitations to this prohibition are appropriate and necessary to maintain balance in our copyright laws." *Id.*

127. *See* H. COMM. ON THE JUDICIARY, 105TH CONG., SECTION-BY-SECTION ANALYSIS OF H.R. 2281 AS PASSED BY THE UNITED STATES HOUSE OF REPRESENTATIVES 6 (Comm. Print 1998). In this draft, the rulemaking proceeding was to take place every three years, not every two years as in the preceding version. *Id.* The rulemaking delegation is also worded differently from the one in the preceding version—but the drafting changes appear to be effectively cosmetic. *See* 144 CONG. REC. H7074, H7075–76 (daily ed. Aug. 4, 1998).

128. *See* 144 CONG. REC. H7074, H7075–76 (daily ed. Aug. 4, 1998) (reciting the text of the proposed § 1201(a)(1)).

129. *Id.* at 7094. Bliley added:

> It was crafted by the Commerce Committee to protect "fair use" and other users [sic] of information now lawful under the Copyright Act. Let us make no mistake about the scope of what we are doing here today in adopting H.R. 2281, about the tremendously powerful new right to control access to information that we are granting to information owners for the very first time.
>
> If left unqualified, this new right, as the Commerce Committee heard in testimony from the public and private sectors alike, could well prove to be the legal foundation for a society in which information becomes available only on a "pay-per-use" basis. That's why this bill assures that institutions like schools and libraries, and the public, will have an opportunity in a credible and permanent process to make the case that the new right we've adopted is interfering with fair use and other rights now enjoyed by information users under current law.

Id.

130. *See* H.R. 2281, 105th Cong. § 1201 (1998).

> [W]ith respect to "fair use," the conferees adopted an alternative to [both the House and the Senate versions of] section 1201(a)(1) that would authorize the *Librarian of Congress* to selectively waive the prohibition against the act of circumvention to prevent a diminution in the availability to individual users (including institutions) of a particular category of copyrighted materials. As originally proposed by the Administration and adopted by the Senate, this section would have established a flat prohibition on the circumvention of technological protection measures to gain access to works for any purpose, and thus raised the specter of moving our Nation towards a "pay-per-use" society. Under the compromise embodied in the conference report, the Librarian of Congress would have authority to address the concerns of libraries, educational institutions, and other information consumers potentially threatened with a denial of access to categories of works in circumstances that otherwise would be lawful today.[131]

In a single sentence, the Conference Report explained that the delegates had eschewed the House's designation of the Secretary of Commerce as the actor to carry out the rulemaking in order to leverage the Register of Copyrights' subject matter expertise.[132] The conference committee appears

131. 144 CONG. REC. S11,887 (daily ed. Oct. 8, 1998) (statement of Sen. John Ashcroft) (emphasis added). The rulemaking regime is not the *only* feature of the DMCA's anti-circumvention provisions that (at least theoretically) might mitigate the statute's impact on the availability of fair uses. First, as noted above, unlike the portion of the DMCA dealing with TPMs that control *access* to copyrighted works, the portion of the DMCA dealing with TPMs designed to control *copying* proscribes only *trafficking* in tools to carry out circumventions, not *the act* of circumventing TPMs. *See generally* R. Anthony Reese, *Will Merging Access Controls and Rights Controls Undermine the Structure of Anticircumenvention Law?*, 18 BERKELEY TECH. L.J. 619 (2003). In principle, this distinction leaves it perfectly legal to engage in the act of circumventing copy-control TPMs protecting works the user has already lawfully acquired—though in practice, the distinction may have little effect. *Id.* And there has been healthy debate, in both the scholarly literature and the courts, regarding whether § 1201(c) effectively allows some circumventions of *access*-control TPMs carried out for the purpose of making fair uses of the underlying works. *See, e.g.*, Jane C. Ginsburg, *Essay: From Having Copies to Experiencing Works: The Development of an Access Right in U.S. Copyright Law*, 50 J. COPYRIGHT SOC'Y U.S.A. 113, 128–130 (2003); Universal City Studios, Inc. v. Remeirdes, 111 F. Supp. 2d 294 (S.D.N.Y. 2000), *aff'd sub nom.* Universal City Studios v. Corley, 273 F.3d 429 (2d Cir. 2001) (finding no fair use defense); Chamberlain Grp. v. Skylink Techs., Inc., 381 F.3d 1178, 1202–03 (Fed. Cir. 2004) (distinguishing *Remeirdes*, finding fair use defense); MDY Indus., L.L.C. v. Blizzard Entm't, 629 F.3d 928, 951 (9th Cir. 2010) (rejecting *Chamberlain*, finding no fair use defense). To say that the issue remains unsettled is probably an understatement.

132. *See* H.R. REP. NO. 105-796, at 64 (1998) (Conf. Rep.) ("It is the intention of the conferees that, as is typical with other rulemaking under title 17, *and in recognition of the expertise of the Copyright Office*, the Register of Copyrights will conduct the rulemaking, including providing notice of the rulemaking, seeking comments from the public, consulting with the Assistant Secretary for Communications and Information of the Department of Commerce

not to have recognized, at least publicly, that this choice might present a constitutional problem—though as noted above, President Clinton flagged the issue when he signed the law less than three weeks later.[133]

2. Implications for Severability

a) The Court's Doctrine

The Court's "leading contemporary opinion on severability" is *Alaska Airlines v. Brock*.[134] At issue were two sections of the Airline Deregulation Act of 1978: one that provided for an "Employee Protection Program" intended to shield certain airline workers from adverse effects of deregulation, and one that gave either house of Congress a "legislative veto" over agency regulations promulgated to implement the program.[135] After *Chadha* deemed one-house vetoes unconstitutional, the question arose whether the Airline Deregulation Act's veto provision could be severed from the provisions establishing the Employee Protection Program.[136] The district court in *Alaska Airlines* held that it could not,[137] the D.C. Circuit held that it could,[138] and the Supreme Court affirmed.[139]

The rule, in the Court's phrasing, was that "the unconstitutional provision must be severed *unless the statute created in its absence is legislation that Congress would not have enacted*."[140] The Court applied that counter-factual standard by looking to the statute's text, purpose, and legislative history. The

and any other agencies that are deemed appropriate, and recommending final regulations in the report to the Librarian." (emphasis added)); *see also* 144 CONG. REC. S11,891 (daily ed. Oct. 8, 1998) (statement of Sen. Patrick Leahy) ("Given [the Copyright Office's] expertise in copyright law, they will play a significant role in the implementation of the legislation, particularly with regards to the rulemaking on the circumvention of technological measures that effectively control access to a copyrighted work and the studies mandated by the bill."). Commentators have argued that the switch was in fact motivated by an interest in rent-seeking among the congressional committees that oversee the Copyright Office. *See* Herman & Gandy, *supra* note 104, at 128 n.34, 149 n.150 (citing Jessica Litman's seminal book, *Digital Copyright*, *supra* note 17). A related theory is that content industries felt more confident in their ability to dictate outcomes in proceedings orchestrated by the Copyright Office, with which they had historically had strong ties, than by the Commerce Department. *See id.* at 128 n.33.

133. *See supra* note 43.

134. *See* Shumsky, *supra* note 98, at 241 (discussing Alaska Airlines, Inc. v. Brock, 480 U.S. 678 (1987)).

135. *Alaska Airlines v. Brock*, 480 U.S. at 680–83.

136. *Id.* at 680.

137. Alaska Airlines, Inc. v. Donovan, 594 F. Supp. 92, 96 (D.D.C. 1984), *rev'd and remanded*, 766 F.2d 1550 (D.C. Cir. 1985).

138. Alaska Airlines, Inc. v. Donovan, 766 F.2d 1550, 1565 (D.C. Cir. 1985).

139. *Alaska Airlines v. Brock*, 480 U.S. at 697.

140. *Id.* at 685 (emphasis added).

underlying Senate bill had included a legislative veto, but the House bill had not.[141] Although the Conference Committee ultimately went with the Senate's approach, the Court concluded that omitting the legislative veto would not have been a deal-breaker:

> The debate on the final bill . . . illustrates the relative unimportance of the legislative-veto provision in this legislation. The only discussion of the EPP [that is, the Employee Protection Program] reflected wholesale approval of the program, with many Members stressing their support for the provisions, or regrets that the EPP provisions were not even stronger. One comment alone—in fact, the only such comment made during the entire deliberation on the Act—concerned the Legislative veto. This was an endorsement of the provision by Representative Levitas, which is best understood as an expression of his general support for legislative-veto provisions rather than a judgment that oversight was particularly important to the EPP.[142]

In the Court's view, the "language and structure" of the EPP also suggested that Congress would have intended the legislative veto to be severable.[143] Among other indicators of that hypothetical preference, Congress had secured for itself an *alternative* "mechanism for the expression of its disapproval" with agency regulations implementing the EPP, in the form of a "report and wait" provision that required the Secretary of Labor to forward proposed rules to responsible Congressional subcommittees thirty days before issuing them as final regulations.[144] The reasoning here is that the "report and wait" regime and the legislative veto were, in a sense, a belt-and-suspenders approach to addressing the same concern for agency action inconsistent with congressional preference—which tended to suggest, in the Court's view, that the legislative veto was to some degree superfluous.

Since *Alaska Airlines*, the Court has purported to use the same "well-established" approach to evaluate severability on a number of occasions.[145] In *United States v. Booker*, for example, the Court excised from the criminal Sentencing Act the provision that made the Federal Sentencing Guidelines

141. *See id.* at 694–95.
142. *Id.* at 696.
143. *Id.* at 697.
144. *Id.* at 689–90.
145. *See id.* at 684. In addition to the cases discussed here, see, e.g., Minnesota v. Mille Lacs Band of Chippewa Indians, 526 U.S. 172, 191 (1999); Denver Area Educ. Telecomms. Consortium, Inc. v. FCC, 518 U.S. 727, 767 (1996) (plurality opinion); New York v. United States, 505 U.S. 144, 186–87 (1992); *see also* Gillian E. Metzger, *Facial Challenges and Federalism*, 105 COLUM. L. REV. 873, 884 (2005) ("Although not always applied consistently, the standard rules governing severability are fairly well established.").

mandatory, after concluding that that provision produced results precluded by the Sixth Amendment's jury-trial right.[146] Severing the unconstitutional portion of the Sentencing Act, the Court said, was "what Congress would have intended in light of the Court's constitutional holding."[147] And in *Free Enterprise Fund v. Public Company Accounting Oversight Board*, the Court severed restrictions that Congress had imposed on the removal of certain agency officials from the statute establishing the agency, after concluding that the removal restrictions interfered with the President's duties under Article II of the Constitution.[148] "[N]othing in the statute's text or historical context," Chief Justice Roberts wrote, "makes it 'evident' that Congress, faced with the limitations imposed by the Constitution, would have preferred no Board at all to a Board whose members are removable at will."[149]

b) Applying the Court's Doctrine

Assume that the rulemaking delegation to the Librarian of Congress in the DMCA is unconstitutional. One argument that Congress *would* have enacted the DMCA's circumvention ban without its accompanying rulemaking regime is rooted in the observation that the content industries' political clout vastly outweighed the sway of the "fair use proponents." This is undeniably true. The idea, then, is that if the only two possible legislative outcomes were a circumvention ban without the rulemaking process, or no circumvention ban at all, the content industries would have exercised their effective prerogative to push through the circumvention ban. If this were the right way to conceive of the severability inquiry—as an investigation into which lobbying faction would likely have had to the power to prevail in a circumscribed, binary contest—the answer would be that the content industries would have trounced their opponents.[150] The rulemaking regime

146. 543 U.S. 220, 245 (2005); *cf.* Walsh, *supra* note 98, at 751 (noting the charge that Justice Breyer's majority opinion on the remedies issue "had created a new kind of severance analysis"); Metzger, *supra* note 145, at 891 ("The majority's facial invalidation of the mandatory provisions of the Sentencing Act provoked the most sustained criticism from the dissents—but from a methodological perspective at least, unwarrantedly so.").

147. *Booker*, 543 U.S. at 246 (citing *Denver Area v. FCC*, 518 U.S. at 767 (internal quotation marks omitted)).

148. 130 S. Ct. 3138, 3160–62 (2010).

149. *Id.* at 3162 (citing *Alaska Airlines v. Brock*, 480 U.S. at 684).

150. *See, e.g.*, Samuelson, *supra* note 81, at 536 ("[The] digital economy groups exhausted their political capital on getting critical [itemized statutory] exceptions to the act-of-circumvention ban.").

would be severable, because Congress would have preferred[151] it to no circumvention ban at all.

But the preceding conception of counter-factual congressional intent is critically different from the hypothetical question that the Court's severability doctrine actually poses. The touchstone of the proper inquiry is not how prevailing political pressures might have *shifted* had interested parties believed ex ante that the only available legislative choices were enacting the circumvention ban without the rulemaking regime or enacting no circumvention ban at all. It is instead whether the rulemaking regime was a sine qua non of the legislative bargain that Congress actually brokered. In *Alaska Airlines*, the Court went out of its way to note that the requisite analysis probed not "whether Congress would have enacted *some* form of protection" for the interests its legislation served,[152] but rather "the importance of the veto in *the original legislative bargain*."[153] The relevant consideration was Congress's hypothetical legislative preference against a baseline reflecting the political trade-offs that were, in fact, necessary to get the law passed in the first place.

The DMCA's rulemaking regime was a hard-fought part of "the original legislative bargain" over the statute's circumvention ban. The balance of the bargain may have been skewed in favor of the content industries, who throughout the legislative process sought (with marked success) to minimize exemptions and carve-outs from the ban.[154] But the legislative record shows that Congress touted the rulemaking regime as a necessary "fail-safe," however modest, against the danger that the simultaneously-enacted circumvention proscription might over the years excessively diminish "access to categories of works in circumstances that otherwise would be lawful [in 1998]."[155]

To be sure, one plausible explanation for Congress's settling on the rulemaking process in 17 U.S.C. § 1201(a)(1)(C)–(D), in particular, is that its

151. The inevitably "elusive" concept of hypothetical congressional "preference" may be particularly slippery in the context of the DMCA—a law notorious for the degree to which its final text reflected interest-group pressure, and little else. *See, e.g.*, LITMAN, *supra* note 17, at 144–45 ("There is no overarching vision of the public interest animating the Digital Millennium Copyright Act. None. Instead, what we have is what a variety of different private parties were able to extract from each other in the course of an incredibly complicated four-year multiparty negotiation."); *see also* Immigration & Naturalization Serv. v. Chadha, 462 U.S. 919, 932 (1983) (characterizing the counter-factual legislative preference that the severability analysis targets as "elusive").

152. *Alaska Airlines v. Brock*, 480 U.S. at 685 n.7.

153. *Id.* at 685 (emphasis added).

154. *See supra* note 115 (discussing the June 1998 Commerce Committee hearing).

155. *See* H.R. REP. NO. 105-796, at 64 (1998) (Conf. Rep.).

erstwhile opponents cynically embraced it precisely for its likely impotence. More specifically, the suggestion here is that the rulemaking mandate in the statute is so narrow, and its range of possible effects so non-threatening to the content industries, that they chose to back the triennial-exemptions regime as an ultimately harmless throw-away concession to vocal, but relatively powerless, fair use proponents.[156] But such a theory is perfectly consistent with the idea that Congress would have been loath to pass a version of the DMCA without so much as throwing a legislative bone to the constituency advocating for relief from the burdens of the circumvention ban. On this view, *even the content industries* saw the value of including, for political purposes, a rulemaking delegation that is effectively a one-way ratchet in the direction of diminishing the scope of the prohibition. To the extent that Hollywood, the RIAA, and their brethren really could dictate the outcome of the political process, they evidently decided—given the prevailing climate—that the best law they could feasibly pass needed to account for the concerns of Representatives Klug, Bliley, and others, at least superficially.[157]

In light of that political reality, it seems perverse to conclude that Congress would have settled for a circumvention ban with no mechanism at all to soften it going forward. Notwithstanding the power and preferences of the content industries, the record shows that once the House Commerce Committee inserted itself into the legislative process in June 1998, the structure of the law that ultimately emerged would invariably look different from the structure of the bills under consideration to date: although the final version would continue to include a circumvention ban, it would also include *some* provision for allowing a flexible range of legitimate uses of copyrighted works protected by TPMs. The rulemaking regime may not be everything fair use advocates hoped for—but the operative political forces (on balance) would not have tolerated an *even less fair-use-friendly* outcome. In this sense, it is perfectly "evident that the Legislature would not have enacted [the anti-circumvention ban] . . . independently of [the rulemaking regime]."[158] The political will simply was not there.

There is no question that divining hypothetical congressional intent is in many respects an artificial analytical enterprise. But if in fact a court held the DMCA's rulemaking regime unconstitutional, the severability inquiry that the Supreme Court has prescribed would be unavoidable. The purpose of this

156. *See* Herman & Gandy, *supra* note 104, at 147, and accompanying discussion.

157. *See* H.R. REP. NO. 105-551, pt. 2, at 86 (2008).

158. Free Enter. Fund v. Pub. Co. Accounting Oversight Bd., 130 S. Ct. 3138, 3161 (2010).

Part of this Article has been to explore considerations relevant to that inquiry, "elusive" though it may be, principally by reviewing the origins of 17 U.S.C. § 1201(a)(1)(C)–(D).[159] The salient facts are that the DMCA's rulemaking regime was a heavily negotiated part of the legislative bargain that Congress brokered, and one that key members of Congress at least purported to see as important and valuable. Although the Court's prevailing severability doctrine asserts a preference for invalidating only the portions of a statute that are themselves unconstitutional, it nevertheless recognizes that, in limited circumstances, leaving intact fragments of partially unconstitutional laws may contravene congressional intent. In view of the role the rulemaking regime plays in the DMCA's anti-circumvention provisions, and in light of the regime's legislative history, the best conclusion is that Congress would not have intended that the circumvention ban survive the rulemaking regime's invalidation.[160]

IV. TOPICS FOR FURTHER RESEARCH

This Article began by noting that commentators have for years been advocating increased copyright policymaking by an administrative agency.[161] Some of their proposals would directly expand the Copyright Office's policymaking mandate.[162] Others endorse broader copyright policymaking by a regulatory agency of some sort, but ultimately advocate a delegation to an agency other than the Copyright Office out of a generalized fear that rulemaking by the Copyright Office may be unconstitutional.[163] The analysis in Part II of this Article will, ideally, inform those and similar ideas going forward. Simply put, the Court's contemporary separation-of-powers opinions depend on reasoning that plausibly proscribes public-facing policymaking by the Copyright Office.

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159. *See* Immigration & Naturalization Serv. v. Chadha, 462 U.S. 919, 962 (1983).

160. In light of this conclusion, an additional relevant question is whether a court invalidating the rulemaking regime and the circumvention ban, together, would also need to invalidate a broader swath still of the DMCA. A comprehensive answer would address Congress's hypothetical preference for preserving other portions of the statute, absent the circumvention ban and the rulemaking regime. That analysis is outside the scope of this Article. It bears reiterating, though, that the Court has repeatedly instructed that it prefers to invalidate as little of a statute as possible when part of the statute is unconstitutional. *See* Ayotte v. Planned Parenthood of N. New Eng., 546 U.S. 320, 328–31 (2006); *cf.* Walsh, *supra* note 98, at 753 (posing the hypothetical of an ultimately unconstitutional provision that was necessary to attract congressional "swing votes" to pass an omnibus law, and arguing that severability doctrine would require invalidation of the entire law).

161. *See supra* note 2 and accompanying text.

162. *See* Liu, *supra* note 1, at 148–54.

163. *See* Singh, *supra* note 2, at 570.

Constitutional issues aside, though, the question whether it makes sense to generate a greater portion of domestic copyright policy in an administrative agency warrants substantial additional research and analysis. Thoroughly evaluating any copyright rulemaking proposal entails wrestling with decades' worth of thinking by administrative law scholars and political scientists regarding the advantages and disadvantages of bureaucratic policymaking.[164] Beyond merely noting that agencies' alleged "expertise" and "flexib[ility]" have historically been used to justify delegations to the bureaucracy, a comprehensive assessment of plans to consolidate copyright authority in the administrative state would stake out and defend a vision of the goals that agency regulation actually serves or does not serve.[165] Perhaps more pragmatically, weighing the desirability of copyright policymaking by a bona fide executive agency ultimately requires assessing the costs and benefits of the thicket of procedural steps that the rulemaking process typically contains.[166]

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164. *See* JERRY L. MASHAW, GREED, CHAOS, AND GOVERNANCE: USING PUBLIC CHOICE TO IMPROVE PUBLIC LAW 108 (1997) ("[T]he legal literature bristles with claims concerning the normative purposes of administrative process, ranging from 'fairness' to 'efficiency' and utilizing a host of other ideas as well—'openness,' 'accountability,' 'legitimacy,' 'rationality,' to name but a few.").

165. *Cf.* Liu, *supra* note 1, at 148–49. *See* DAVID SCHOENBROD, POWER WITHOUT RESPONSIBILITY 18–19 (1993) (arguing that delegations of political decisionmaking to agencies "reduces government's capacity both to protect us from the harms about which we care the most and to effect compromises and therefore resolve disputes about what the law should be"); MASHAW, *supra* note 164, at 23 (noting that in one vision of bureaucratic functioning, "[t]he democratization of the regulatory process, far from solving the problems of regulatory capture, is . . . depicted as having merely provided a no-holds-barred domain for special interest pleading"). *But see* Steven P. Croley, *Theories of Regulation: Incorporating the Administrative Process*, 98 COLUM. L. REV. 1, 6 (1998) ("[S]cholars writing on the political economy of regulation routinely generalize on a plane of abstraction far above the administrative process, without much attention to the legal institutions that shape regulatory decisionmaking in many crucial ways, just as scholars of administrative law routinely focus on particular judicial doctrines without clearly situating their work in any larger theory of regulation or explaining how the doctrines they identify and the reforms they espouse fit into some broader understanding of what regulation is and which interests regulatory decisions advance.").

166. *See* Mark Seidenfeld, *A Table of Requirements for Federal Administrative Rulemaking*, 27 FLA. ST. U. L. REV. 533, 533 (2000); Sidney Shapiro, *Pragmatic Administrative Law*, 2005 ISS. IN LEG. SCHOL., art. 1, at 16 (counting 111 steps in Seidenfeld's table); Thomas O. McGarity, *The Courts and the Ossification of Rulemaking: A Response to Professor Seidenfeld*, 75 TEX. L. REV. 525, 528 (1997) ("By the end of the 1980s, it was becoming increasingly clear that informal rulemaking was not faring very well. Its great virtue had been the efficiency with which federal agencies could implement regulatory policy and the degree to which affected members of the public could participate in the policymaking process. Throughout the late 1970s and early 1980s, however, the executive branch and, to a more limited extent, Congress added analytical requirements and review procedures, often at the behest of the

And of course, the relative merits of delegating copyright rulemaking authority to an administrative agency invariably depends on details of the agency at issue. In many countries, an agency charged with formulating or adopting copyright policy is housed in the Ministry of Culture or an analogous department.[167] The location of the U.S. Copyright Office in the Library of Congress offers, in a sense, a similar symbolic recognition that copyright policy defines not just rules of trade, but also modes and practices for the creation and transmission of culturally significant works. And yet in view of the massive contribution of copyright industries to the American economy,[168] conceiving of copyright policymaking as (at least partly) industrial policy or even a form of competition law[169] is clearly necessary in any analysis of whether a particular administrative body is staffed with the right resources and structured with the right institutional design to wield copyright policymaking authority effectively.

Considering copyright rulemaking comprehensively, in other words, is a much broader project than merely thinking through where Congress can *permissibly* delegate rulemaking authority. It seems likely that proposals to give the Copyright Office or another agency enhanced copyright policymaking responsibility will continue to surface in years to come—and when they do, deeper analysis of the theories, problems, and competing desiderata identified here would be useful to have in hand.

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regulated industries. These initiatives and the continuing scrutiny of reviewing courts . . . caused the rulemaking process to 'ossify' to a disturbing degree. By the mid-1990s, it has become so difficult for agencies to promulgate major rules that some regulatory programs have ground to a halt . . . ."). A non-profit group called "OMB Watch" has independently compiled a flow chart of steps in the notice-and-comment rulemaking process. The PDF version, whose type is in twelve-point font, runs to five pages. *See Flowchart of Notice-and-Comment Rulemaking*, OMB WATCH (2007), http://www.ombwatch.org/files/regs/images/rc/flowchartprt.pdf. For a discussion of similar issues concerning certain responsibilities discharged by the Patent and Trademark Office, see Stuart Minor Benjamin & Arti K. Rai, *Who's Afraid of the APA? What the Patent System Can Learn from Administrative Law*, 95 GEO. L.J. 269 (2007).

167. *See, e.g.*, Heba A. Raslan, *Shari'a and the Protection of Intellectual Property—The Example of Egypt*, 47 IDEA: INTELL. PROP. L. REV. 497, 540 (2007); Geoffrey R. Scott, *A Comparative View of Copyright as Cultural Property in Japan and the United States*, 20 TEMP. INT'L & COMP. L.J. 283, 312 (2006); Richard P. Sybert, *IP Protection and Counterfeiting in China*, 20 INTELL. PROP. & TECH. L.J., no. 7, 2008, at 12, 15.

168. *See* COHEN ET AL., *supra* note 82, at 29 (citing Siwek study estimating the contribution of "core" copyright industries to gross domestic product at $889.13 billion in 2007—nearly 6.5% of that year's GDP).

169. *See, e.g.*, Randal C. Picker, *Copyright and the DMCA: Market Locks and Technological Contracts*, *in* ANTITRUST, PATENTS AND COPYRIGHT: EU AND US PERSPECTIVES 180 (François Lévêque & Howard Shelanski eds., 2005); HERBERT HOVENKAMP, INNOVATION AND COMPETITION POLICY: CASES AND MATERIALS (2011).

V. CONCLUSION

For years, a constitutional cloud has hung over the prospect of substantial public-facing policymaking by the Copyright Office. The thesis of this Article is that such concern could certainly be well-founded. The fear that Copyright Office rulemaking violates the separation-of-powers doctrine that the Supreme Court has articulated and occasionally enforced since the early 1980s is not some alarmist rumor planted by nefarious enemies of the agency or opponents of proposals to expand its mandate. To the contrary, the possibility that a well-informed federal court might strike down any grant of meaningful rulemaking authority to the Copyright Office, or its supervisory agency, the Library of Congress, is very real (though not a foregone conclusion).

That prospect includes the legitimate possibility that the existing rulemaking delegation to the Librarian of Congress in the DMCA's anti-circumvention provisions is unconstitutional. If so, this Article has argued, that rulemaking regime should not be deemed severable from the provisions of the statute from which it carves out exceptions. If the DMCA's triennial rulemakings are unconstitutional, then the ban on circumventing access-control TPMs in 17 U.S.C. § 1201(a)(1)(A) should be held invalid as well. Although such collateral damage would amount to a significant change in prevailing anti-circumvention law, it would be the result of Congress's disregarding the pre-existing advice of the Office of Legal Counsel, which committed itself in 1996—two years before the DMCA's enactment—to the view that it was "highly doubtful that Congress constitutionally could create new legislative agencies with operational powers, *or afford existing agencies novel powers*, with respect to . . . private persons."[170]

170. Dellinger Memo, *supra* note 3, at 563 (emphasis added).

SEVEN REASONS WHY TRADE SECRETS ARE INCREASINGLY IMPORTANT

David S. Almeling†

ABSTRACT

As technology reshapes the way we live and work, propelling the American economy toward one based on informational assets, trade secrets have never been more important. The ascent of the importance of trade secrets has unleashed an unprecedented boom in litigation, in legislation, and in media and scholarly attention. It has produced damages awards in the hundreds of millions of dollars, and prompted federal authorities to pursue aggressive criminal investigations. The author, an experienced trade secrets litigator, identifies seven factors behind this phenomenon: (1) digital technology; (2) a mobile workforce; (3) the rising value of intellectual property, of which trade secrets are a part; (4) the widespread adoption of the Uniform Trade Secrets Act; (5) trade secrets' flexible definition; (6) an increase in international threats; and (7) the shifting calculus between whether to pursue patent or trade secret protection. Whether each of these factors will continue to fuel trade secret growth remains uncertain; societal norms fluctuate, political winds shift. But taken together, these seven trends suggest that the business of trade secrets will only assume greater importance in the years ahead.

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I. INTRODUCTION

The business of trade secrets—developing them, protecting them, stealing them, litigating them—is booming.

Examples of the boom include:

Litigation. Over the past three decades, trade secret litigation in federal courts has grown exponentially, doubling roughly every decade, while federal litigation has decreased overall.[1] And over the past two decades, trade secret litigation in state courts has increased at a rate faster than that of state litigation in general.[2]

Legislation. No legislation prohibiting trade secret misappropriation existed before 1980. Today, forty-seven states have a civil statute and over

1. David S. Almeling et al., *A Statistical Analysis of Trade Secret Litigation in Federal Courts*, 45 GONZ. L. REV. 291, 293, 301–02 (2010) [hereinafter *Federal Study*].

2. David S. Almeling et al., *A Statistical Analysis of Trade Secret Litigation in State Courts*, 46 GONZ. L. REV. 57, 67–68 (2011) [hereinafter *State Study*]. While the growth in federal trade secret cases was exponential, the Administrative Office of the U.S. Courts reports that from 2000 to 2009, total civil filings decreased by two percent. Judicial Business of the United States Courts, ADMINISTRATIVE OFFICE OF THE U.S. COURTS, 11 (2009), *available at* http://www.uscourts.gov/Statistics/JudicialBusiness/JudicialBusiness.aspx?doc=/uscourts/Statistics/JudicialBusiness/2009/JudicialBusinespdfversion.pdf.

half of those states also have specific criminal statutes.[3] In 1996, Congress passed a federal statute criminalizing trade secret misappropriation,[4] and in 2011 two senators introduced an amendment that, had it passed, would have provided a federal right of civil action.[5]

Media and Scholarly Attention. Only one article about trade secrets appeared in a major U.S. newspaper in the 1970s, but the number of articles on this topic has since mushroomed: 159 articles in the 1980s, 548 in the 1990s, and 593 in the 2000s.[6] Likewise, in the 1970s, there were twenty-six law review articles about trade secrets; by the 1980s that number had grown to 320 articles, by the 1990s to 1,105, and by the 2000s to 1,546.[7]

Value of Trade Secrets. Because of their confidential nature, it is difficult to accurately assess the value of trade secrets today or compare their current value to that of years past. But economists do value intangible assets, which include trade secrets and other types of intellectual property. The intangible assets of the 500 companies that make up the S&P 500 comprised 17 percent of the companies' total value in 1975, 32 percent of total value in 1985, 68 percent of total value in 1995, 80 percent of total value in 2005, and 81 percent of total value in 2009.[8]

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3. *State Study*, *supra* note 2, at 75. New Jersey is the latest state to adopt the UTSA, enacting it on January 9, 2012. *See generally* New Jersey Trade Secrets Act (S-2456/A921).

4. Economic Espionage Act of 1996, 18 U.S.C. §§ 1831–39 (2006).

5. David S. Almeling, *Guest Post: First Patent Reform, Now Trade Secret Reform?*, PATENTLY-O (Oct. 12, 2011), http://www.patentlyo.com/patent/2011/10/almeling-trade-secret.html.

6. I do not purport to have conducted a rigorous statistical analysis of citations in newspapers. Instead, I ran a series of searches in Westlaw's Major Newspapers (NPMJ) database, which contains more than four dozen of the most widely circulated daily U.S. newspapers, for the ten-year periods defined above. I required the article to use the phrase "trade secret" at least three times to increase the percentage of articles that were focused on trade secrets—e.g., for the 1970s, atleast3("trade secret!") & da(aft 12/31/1969 & bef 01/01/1980)—as opposed to articles that merely mentioned them in passing.

7. I also do not purport to have conducted a rigorous statistical analysis of citations in law review articles. Rather, I ran a series of searches in Westlaw's Journals and Law Reviews PRO, which contains all available law reviews and bar journals on Westlaw, for the ten-year periods defined above. I required the article to use the phrase "trade secret" at least five times to increase the percentage of articles that were focused on trade secrets—e.g., for the 1970s, atleast5("trade secret!") & da(aft 12/31/1969 & bef 01/01/1980)—as opposed to articles that only mentioned them in passing. I required the law review articles to use the phrase five times, but only three times for newspapers, because law review articles are typically longer.

8. James E. Malackowski, *The Intellectual Property Marketplace: Past, Present and Future*, 5 J. MARSHALL REV. INTELL. PROP. L. 605, 611 (2006); Press Release, Ocean Tomo, Ocean Tomo's Annual Study of Intangible Asset Market Value – 2010 (Apr. 4, 2011), *available at* http://www.oceantomo.com/media/newsreleases/intangible_asset_market_Value_2010.

Damages Awards. Trade secret awards now include headline-grabbing sums in the hundreds of millions of dollars, numbers unheard of decades ago. In 2011 alone, those awards included $947 million to medical device manufacturer St. Jude Hospital based on an employee's misappropriation of trade secrets,[9] $920 million to chemical company DuPont for trade secret misappropriation of its Kevlar fiber product,[10] and $525 million to hard disk drive manufacturer Seagate based on misappropriation by its rival Western Digital.[11]

Several factors help to explain this remarkable growth. One factor is the tectonic shifts in technology reshaping almost every aspect of American life. Trade secrets were once stored under lock and key in hard-copy form, making it difficult to both access and walk away with the protected information. The revolution in digital storage—cloud computing, e-mail, thumb drives—makes it easier to take trade secrets, whether the culprit is an employee who copies company secrets on a thumb drive or a hacker who breaches the company's network from thousands of miles away.

Another factor is the changing American workforce. Gone are the days of "the company man," devoting his career to a single employer. Today's workers are mobile, hopping from job to job—and, whether by design or accident, often taking their former employers' trade secrets with them.

In all, this Article advances seven factors that help explain why trade secrets have become so crucial to American businesses and their employees. Besides new technology and changes to the American workforce, those factors include the shift in corporate value from tangible to intangible assets, the Uniform Trade Secrets Act,[12] the expanding definition of what qualifies as a trade secret, the growth of international threats, and the changing balance between patent and trade secret law. Part II provides the context for the current growth by chronicling the history of trade secret law and its slow development vis-à-vis other forms of intellectual property. Part III presents the seven factors and also discusses countervailing evidence. Part IV

9. *St. Jude Trade Secret Theft Win Pared Back by $1.3 Billion*, MASSDEVICE (June 27, 2011), http://www.massdevice.com/news/st-jude-trade-secret-theft-win-pared-back-13-billion.

10. Jef Feeley et al., *Kolon Loses $920 Million Verdict to DuPont in Trial Over Kevlar*, BLOOMBERG BUSINESSWEEK (Sept. 15, 2011, 12:24 AM), http://www.businessweek.com/news/2011-09-15/kolon-loses-920-million-verdict-to-dupont-in-trial-over-kevlar.html.

11. Jacqueline Bell, *Seagate Wins $525M In Western Digital Secrets Row*, LAW360 (November 21, 2011, 1:06 PM), http://www.law360.com/ip/articles/287459?nl_pk=86604097-1f36-4bfa-a7ca96c7182cf1bc&utm_source=newsletter&utm_medium=email&utm_campaign=ip.

12. Uniform Trade Secrets Act (amended 1985), 14 U.L.A. 529 (2005).

concludes with a prediction: the same factors that underlie the boom in all things trade secret over the past few decades show no sign of abating and, thus, portend further increases in the development, misappropriation, and litigation of trade secrets.

II. THE SLUGGISH DEVELOPMENT OF TRADE SECRET LAW

Trade secret law in the United States is the newest and least developed of the "big four" types of intellectual property ("IP"): patents, copyrights, trademarks, and trade secrets.[13] Courts and legislatures embraced trade secret law last, and the federal government has yet to do so in the form of a civil statute. Trade secret law is thus the sole type of IP governed primarily by state law, a state of affairs I have lamented in previous articles.[14]

Patent law is the oldest of the big four. The custom of granting patents originated in Italy in the first half of the fifteenth century, and Venice enacted the first patent statute in 1474.[15] English courts recognized patents beginning in 1572, and England's parliament shaped patent law with the adoption of the Statute of Monopolies in 1623.[16] The American colonies continued in the English tradition, and almost all had granted patents by the time of the American Revolution.[17] With the adoption of the U.S. Constitution, the federal government assumed the power to grant patents,[18] and shortly thereafter, in 1790, Congress passed the first Patent Act.[19]

Modern copyright law enjoys a similarly long history. England's parliament enacted the first copyright statute with the Statute of Anne in 1710.[20] Shortly after its passage, courts recognized copyrights under common

13. *See, e.g.*, Mark A. Lemley, *The Surprising Virtues of Treating Trade Secrets as IP Rights*, 61 STAN. L. REV. 311, 315 (2008) (noting that "(t)rade secret law is a relative latecomer to the IP pantheon").

14. *See generally* David S. Almeling, *Four Reasons to Enact a Federal Trade Secrets Act*, 19 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 769 (2009); David S. Almeling, *A Practical Case For Federalizing Trade Secret Law*, LAW360 (June 23, 2009), http://www.law360.com/articles/106724.

15. Edward C. Walterscheid, *The Early Evolution of the United States Patent Law: Antecedents*, 76 J. PAT. & TRADEMARK OFF. SOC'Y 697, 707–08 (1994).

16. *See, e.g.*, E. Wyndham Hulme, *The History of the Patent System Under the Prerogative and at Common Law*, 12 L.Q. REV. 141 (1896).

17. ARTHUR R. MILLER & MICHAEL H. DAVIS, INTELLECTUAL PROPERTY: PATENTS, TRADEMARKS, AND COPYRIGHT IN A NUTSHELL 7 (3d ed. 2000).

18. U.S. CONST. art. 1, § 8, cl. 8.

19. Patent Act of 1790, 1 Stat. 109 (codified as amended at 35 U.S.C. §§ 1–376 (2006)).

20. 8 Ann. c. 19, § 1 (1710) (Eng.).

law principles.[21] Copyright protection was authorized in the U.S. Constitution,[22] and Congress passed the Copyright Act in 1790.[23]

American trademark law has its origin in English common law, with the earliest pivotal English cases occurring in 1742[24] and 1824.[25] American courts first granted relief under trademark theories in 1837.[26] Congress enacted the first trademark statutes in 1870 and 1876, although the Supreme Court subsequently declared them unconstitutional.[27] Congress then passed the Trademark Act in 1881.[28]

While confidential business information is as old as business itself, trade secret law is a more recent phenomenon. The earliest American cases discussing trade secrets occurred in 1837[29] and 1868,[30] with the latter recognized as the first clear judicial statement of the law of trade secrets.[31] When the Restatement of Torts was published in 1939, it included a section summarizing the law of trade secrets.[32] The Restatement marks a critical turning point for trade secret law because before its publication, trade secret law had not yet "crystallized around any particular pattern."[33] The Restatement quickly became the legal standard, as nearly every reported trade secret case cited the Restatement.[34] But due to the nonbinding nature of the

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21. *See, e.g.*, Millar v. Taylor, (1769) 98 Eng. Rep. 201, 217–19, 225–29 (K.B.); Donaldson v. Beckett, (1774) 1 Eng. Rep. 837 (H.L.).

22. U.S. CONST. art. 1, § 8, cl. 8.

23. Copyright Act of 1790, 1 Stat. 124 (codified as amended at 17 U.S.C. §§ 101–1332 (2006)) (copying almost verbatim the Statute of Anne).

24. Blanchard v. Hill, (1742) 26 Eng. Rep. 692 (Ch.).

25. Sykes v. Sykes, (1824) 3 B.& C. 541 (upholding a verdict against a manufacturer for appropriating another's mark on a stamp).

26. Thomson v. Winchester, 36 Mass. 214 (1887); *see* Daniel M. McClure, *Trademarks and Unfair Competition: A Critical History of Legal Thought*, 69 TRADEMARK REP. 305, 314 (1979).

27. United States v. Steffens, 100 U.S. 82 (1879) (*The Trade-mark Cases*).

28. Trademark Act of 1881, 21 Stat. 502 (1881); Trademark Act of 1881, Pub. L. No. 58-84, 33 Stat. 724, 727 (1905) (repealed by Lanham Act, § 46(a), Pub. L. No. 79-459, 60 Stat. 427, 444 (1946) (codified as amended in various sections of 15 U.S.C.)).

29. Vickery v. Welch, 36 Mass. (1 Pick.) 523, 524 (1837) (holding that there is an implied duty of confidentiality in shared trade secrets).

30. Peabody v. Norfolk, 98 Mass. 452, 457–58 (1868) (holding that one who invents and keeps secret a process of manufacture has a property right in it against one who in breach of confidence attempts to use it or disclose it to third persons).

31. Vincent Chiappetta, *Myth, Chameleon or Intellectual Property Olympian? A Normative Framework Supporting Trade Secret Law*, 8 GEO. MASON L. REV. 69, 70 (1999).

32. RESTATEMENT (FIRST) OF TORTS §§ 757–58 (1939).

33. William B. Barton, *A Study in the Law of Trade Secrets*, 13 U. CIN. L. REV. 507, 558 (1939).

34. Ramon A. Klitzke, *The Uniform Trade Secrets Act*, 64 MARQ. L. REV. 277, 282 (1980).

Restatement, trade secret law remained geographically inconsistent, developing unevenly from state to state.[35]

About forty years later, in an attempt to codify the common law of trade secrets and to promote uniformity, the Commissioners on Uniform State Law—the same folks who brought us the Uniform Commercial Code—drafted the Uniform Trade Secrets Act ("UTSA"). Following its adoption in 1979, the UTSA gained widespread acceptance, and as of late 2011, forty-seven states had enacted it in some form.[36] Despite the UTSA, trade secret law is still not uniform. Although only three states have not enacted it, those three (Massachusetts, New York, and Texas) represent 18 percent of the nation's GDP.[37] Further, states whose legislatures adopted it also modified it,[38] courts in different states interpreted it differently, and some courts continued to rely on common law even after their legislatures' enactment of the UTSA.[39]

Congress has made several attempts to bring trade secret law into the federal realm. In 1959, New York Representative John Lindsay introduced the Lindsay Bill, which sought to create a federal statutory cause of action,[40] but it went nowhere. And in 1966, Arkansas Senator John McClellan introduced the McClellan Bill, which sought to achieve the same goal by amending federal trademark law.[41] It was similarly unsuccessful. In 1996, Congress did pass the Economic Espionage Act and made misappropriation of trade secrets a federal crime, but that statute does not address civil misappropriation, and it does not preempt state trade secret law.[42] As recently as October 2011, Senators Herb Kohl and Christopher Coons

35. *Uniform Trade Secrets Act*, prefatory note, 14 U.L.A. 531 (2005) ("Notwithstanding the commercial importance of state trade secret law to interstate business, this law has not developed satisfactorily. In the first place, its development is uneven.").

36. MELVIN F. JAGER, TRADE SECRETS LAW §§ 2:3, 3:29 (2008); *see also supra* note 3.

37. Christopher Chantrill, *Comparison of State and Local Government Revenue and Debt in the United States Fiscal Year 2010*, USGOVERNMENTREVENUE.COM (Feb. 1, 2012), http://www.usgovernmentrevenue.com/state_rev_summary.php?chart=Z0&year=2010&units=d&rank=a.

38. For a complete list of states' enactments of and changes to the UTSA that is annually updated, *see* Brian M. Malsberger, TRADE SECRETS: A STATE-BY-STATE SURVEY (Brian Malsberger, Arnold H. Pedowitz & Robert A. Blackstone eds., 4th ed. 2011).

39. Michael Risch, *A Failure of Uniform Laws?*, 159 U. PA. L. REV. PENNUMBRA 1, 12 (2010), *available at* http://www.pennumbra.com/essays/10-2010/Risch.pdf.

40. *Hearing on H.R. 4651 Before the Subcomm. on Commerce & Fin. of the House Comm. on Interstate & Foreign Commerce*, 88th Cong., 2d Sess. 9 (1964). *See also* Sharon K. Sandeen, *The Evolution of Trade Secret Law and Why Courts Commit Error When They Do Not Follow The Uniform Trade Secrets Act*, 33 HAMLINE L. REV. 493, 505–08 (2010) (describing the Lindsay Bill).

41. Sandeen, *supra* note 40, at 509.

42. Economic Espionage Act of 1996, 18 U.S.C. §§ 1831–1839 (2006).

introduced an amendment to the Economic Espionage Act that would provide a federal right of civil action for trade secret owners.[43] It's too early to tell how this most recent effort will fare. Today, though, there is still no general federal trade secret statute.

Commentators propose various theories to explain the sluggish development of trade secret law. According to one, trade secret owners have often been unaware that they have had a legally enforceable right; and even if they were aware of their rights, they were unwilling to pursue an action because doing so would require additional disclosures of the secret information.[44] Another commentator highlights the general unwillingness of courts to recognize new causes of action and the inability of Congress to agree on a definition of unfair competition, the general area of law into which trade secret law falls.[45] Others blame persistent legal questions, such as uncertainty about the precise parameters of trade secret protection,[46] including the nature of the property right and the definition of the public domain in the trade secret context.[47] Whatever the cause, the result is clear: trade secret law, compared to that of other types of IP, has been slow to take root.

III. SEVEN REASONS WHY TRADE SECRETS ARE INCREASINGLY IMPORTANT

Despite the relatively sluggish development of trade secret law, the influence of trade secrets is now expanding rapidly. Seven reasons help explain this phenomenon.

A. REASON NO. 1: NEW TECHNOLOGY

One reason for the ascendancy of trade secrets is that technology is making their misappropriation easier. Before computers, trade secret information was usually stored in physical form. Picture a locked file cabinet in a locked room in the basement of a secure manufacturing plant containing thousands of pages of blueprints for a new product. To steal those blueprints, a thief would have to gain access to the plant, to the room, and to the file cabinet. Then, the thief would have to either take the blueprints or

43. *See* Almeling, *supra* note 5.
44. Klitzke, *supra* note 34, at 284 n.37.
45. Sandeen, *supra* note 40, at 494, 507.
46. Klitzke, *supra* note 34, at 284 n.37.
47. *See* Charles Tait Graves, *Trade Secrets as Property: Theory and Consequences*, 15 J. INTELL. PROP. L. 39 (2007).

copy them, and loaded down with purloined documents, attempt to smuggle them out of the building.

Now picture the same blueprints in today's digital world. Depending on the sophistication of the trade secret owner, those blueprints would probably be stored as a digital file on a computer network. The file may be encrypted, password protected, and restricted to employees on a need-to-know basis. And the network might reside on a secure server behind a firewall. But if someone, such as a disgruntled employee, were to gain access to that file, she could easily download it, e-mail it, post it on the Internet, or simply save it on a flash drive and walk out the front door undetected, with thousands of pages of information in her pocket.[48] As noted by one commentator, "[t]he digital world is no friend to trade secrets."[49]

One recent example of such a disgruntled employee is Gary Min, who for ten years worked for E.I. du Pont de Nemours and Company, one of the world's preeminent chemical companies.[50] When DuPont demoted Min after he refused to relocate, Min decided to switch jobs. During his final months at DuPont, Min scoured his soon-to-be ex-employer's secure servers for information that would give his career at his new employer a head start.[51] He downloaded 22,000 abstracts and 16,700 documents—ten percent of the information stored on the confidential servers and fifteen times the number of documents accessed by the next most active user.[52] Most of these documents described DuPont's major product lines, such as Kevlar and Teflon, and bore no relation to Min's responsibilities at the company; the estimated value of the information was $400 million.[53] After the FBI learned of Min's actions and filed charges against him, Min pleaded guilty to theft of trade secrets and received eighteen months in prison.[54]

The risks to digital trade secret information are not confined to the risks posed by those with legitimate access. Hackers throughout the world can

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48. *See* Elizabeth A. Rowe, *Saving Trade Secret Disclosures on the Internet Through Sequential Preservation*, 42 WAKE FOREST L. REV. 1, 2 (2007) (proposing a new test regarding the disclosure of trade secret information on the Internet).

49. Victoria A. Cundiff, *Reasonable Measures to Protect Trade Secrets in a Digital Environment*, 49 IDEA 359, 361 (2009).

50. Press Release, U.S. Dep't of Justice, Guilty Plea in Trade Secrets Case (Feb. 15, 2007), *available at* http://www.bis.doc.gov/news/2007/doj02_15_07.htm; *Jail Time Imposed in DuPont Spy Case*, NEWS JOURNAL, Nov. 7, 2007, at BA; Sean O'Sullivan, *Trade Case Reads like Spy Thriller*, NEWS JOURNAL, Feb. 16, 2007, at 1A.

51. *Id.*

52. *Id.*

53. *Id.*

54. *Jail Time Imposed in DuPont Spy Case*, NEWS J., Nov. 7, 2007, at BA; Sean O'Sullivan, *Trade Case Reads like Spy Thriller*, NEWS J., Feb. 16, 2007, at 1A.

break into networks and access confidential company information, including trade secrets, in ways that were unimaginable a few decades ago.[55] And the threat of hackers is rising. In 2002, for example, the F.B.I. handled nearly 1,500 hacking cases; in 2010, it handled more than 2,500.[56] One recent example is Philip Gabriel Pettersson, a.k.a. "Stakkato," who was indicted on five counts involving trade secret misappropriation.[57] He allegedly hacked into the ostensibly secure computer systems at Cisco Systems and NASA, including NASA's Advanced Supercomputing Division. Pettersson, a 16-year-old Swede, is accused of committing these acts from 5,000 miles away.

The risks posed by hackers are likely underreported because they are effective at covering their tracks. One recent study by Mandiant, a computer security firm, found that in cases handled by the firm where intrusions were traced to Chinese hackers, ninety-four percent of the targeted companies did not know of the breach until someone else told them.[58] And the median number of days between the intrusion and its detection was 416—more than a year.[59]

The risk to digital information continues to increase as more people acquire access to digital devices. In 2000, relatively few computers were connected to the Internet, but by 2010 there were more than ten billion computers with Internet access. Projections call for twenty-five billion of such devices by 2015, and by 2020, some fifty billion.[60]

Another trend that increases the risk of trade secret misappropriation is cloud computing—providing services and information over a network, typically the Internet, instead of keeping them within a company's secured proprietary network. Cloud computing is not new (think web-based e-mail like Hotmail, which launched in 1996), but what is new is that governments and businesses are increasingly storing sensitive and confidential data in the cloud.[61] While various providers of cloud services offer all sorts of

55. *See generally* OFFICE OF THE NAT'L COUNTERINTELLIGENCE EXEC., FOREIGN SPIES STEALING US ECONOMIC SECRETS IN CYBERSPACE 6–7 (2011) (citing a study from Cisco Systems) [hereinafter FOREIGN SPIES].

56. Devlin Barrett, *U.S. Outgunned in Hacker War*, WALL STREET J. (Mar. 28, 2012), http://online.wsj.com/article/SB10001424052702304177104577307773326180032.html.

57. Press Release, U.S. Dep't of Justice, Kingdom of Sweden Accepts Request for Transfer of Prosecution in Case Involving Swedish National Charged with Hacking and Trade Secret Theft (Feb. 8, 2010), *available at* http://www.justice.gov/usao/can/press/2010/2010_02_08_sweden.transfer.press.html.

58. Barrett, *supra* note 56.

59. *Id.*

60. FOREIGN SPIES, *supra* note 55.

61. Horacio E. Gutiérrez, *Peering Through the Cloud: The Future of Intellectual Property and Computing*, 20 FED. CIR. B.J. 589, 589 (2011).

protections, moving data to the Internet increases the risk of that data being compromised. Questions about cloud computing—wondering, for example, how many years a client's cloud computing provider has been in business—are enough to keep a trade secret lawyer awake at night.

Just as the available methods to misappropriate trade secrets have proliferated, so too have the techniques for detecting such misappropriation. With today's technology, companies have access to a host of security systems: real-time computer monitoring technology; metadata about who accessed a file, when, for how long, and from where; the forensic ability to retrieve data that a misappropriator might delete in an effort to hide her tracks; video cameras; and key cards that track employee movements.[62] Buttressing these systems are network architecture and computer forensic technology, which go by names such as "deep packet inspection," "human behavior based network security," "insider threat tools," and many others.[63] Companies use these technologies to better detect who took what trade secret information and how.

B. REASON NO. 2: A CHANGING WORK ENVIRONMENT

As uncomfortable as it can be for companies to acknowledge, current and former employees are the groups most often sued for trade secret misappropriation.[64] Accordingly, an analysis of the growing importance of trade secrets should include consideration of changes in the American work environment.

One change is the increasing mobility of employees. No longer do workers think of themselves as "lifers," devoting their careers to a single employer. One government study found that a person born in the later years

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62. IAN G. DIBERNARDO & JASON M. SOBEL, PROTECTING THE CONFIDENTIALITY AND VALUE OF SENSITIVE DATA AND INTELLECTUAL PROPERTY 2, 8 (2009) (instructing employees on the steps they can take to increase security of trade secrets, investigate breaches, and minimize the consequences of a breach).

63. MCAFEE, UNDERGROUND ECONOMIES: INTELLECTUAL CAPITAL AND SENSITIVE CORPORATE DATA NOW THE LATEST CYBERCRIME CURRENCY 17 (2011), *available at* http://www.mcafee.com/us/resources/reports/rp-underground-economies.pdf (defining "deep packet inspection" as software applications, lying on top of the hardware, that "allow for any kind of rules-based arrangement to strip data off packets leaving a network as well as prevent any type of exploit by stripping it from incoming traffic"; defining "human behavior based network security" as software that does "not use signatures, anomalies, or heuristics, but human behaviors that are common to all deceptive actions on a network which can be stopped prior to having data leave a network"; and defining "insider threat tools" as "tool [suites] that can be deployed on systems to monitor hundreds to thousands of inside users simultaneously, tracking their actions and identifying traits inherent in those actions that should be cause for alert").

64. *See Federal Study*, *supra* note 1, at 302–04; *State Study*, *supra* note 2, at 68–71.

of the Baby Boom, between 1957 and 1964, held an average of eleven jobs between ages eighteen and forty-two.[65] The greater the job mobility, the greater the opportunity to take and use a previous employer's trade secrets at a later position, whether accidentally or intentionally.

Another change that helps to explain the changing workforce is through sociological evidence. Professor Elizabeth Rowe recently published an article on the sociological aspects of trade secret misappropriation.[66] More than half of the current American workforce consists primarily of people from Generation X (born in the 1960s and 1970s) and Generation Y (born in the 1980s and early 1990s), and as Professor Rowe found, Gen X and Y workers generally don't feel that their jobs are secure.[67] Nor do they value loyalty to their current employers. They instead value mobility and entrepreneurism. The result is that these workers are more likely to move from job to job than generations past. And when they do, they are more likely to take their previous employers' trade secrets with them. The *Financial Times* recognized this trend in 2011 when it posed the question, "Is loyalty in the workplace dead?" and reported on the exacerbating trends of layoffs, outsourcing, and automation.[68] Another commentator notes that "shortening contracts, outsourcing, automation and multiple careers" may have given rise to the decrease in employee loyalty.[69]

Generation X is also the first group to have come of age around computers,[70] and Generation Y has never lived without them.[71] Both groups have a high comfort level with digital media and storage methods.[72] As explained above, advancing technology has increased opportunities for those

65. Press Release, Bureau of Labor Statistics of the U.S. Dep't of Labor, Number of Jobs Held, Labor Market Activity, and Earnings Growth Among the Youngest Baby Boomers: Results from a Longitudinal Survey 1 (Sept. 10, 2010), *available at* http://www.bls.gov/news.release/pdf/nlsoy.pdf (finding that "individuals born from 1957 to 1964 held an average of 11 jobs from age 18 to age 44").

66. *See* Elizabeth A. Rowe, *A Sociological Approach to Misappropriation*, 58 U. KAN. L. REV. 1 (2009) (suggesting that a sociological analysis of the values, characteristics, and employment expectations of so-called "New Generation Employees" helps explain current trends in trade secret law and should inform efforts to achieve optimal trade secret protection).

67. *Id.* at 6, 9.

68. *See* Phyllis Korkki, *The Shifting Definition of Worker Loyalty*, N.Y. TIMES, Apr. 23, 2011, at 1.

69. *Is Workplace Loyalty an Outmoded Concept?*, FIN. TIMES, Mar. 8, 2011, at 2 (quoting "the work expert," Lynda Gratton).

70. Rowe, *supra* note 66, at 6.

71. *Id.* at 9.

72. *Id.* at 6–7, 9–10.

with greater technical abilities to misappropriate trade secrets, often through the mere click of a mouse or the connection of a flash drive.

Another aspect of the modern work environment that may be contributing to the rise in trade secret litigation is the portability of work. As of 2011, 57 percent of employees save work to external devices on a weekly basis.[73] Another is the decreasing separation between work and home.[74] Employees can check their work e-mail from home or their personal e-mail from the office. Many employees work remotely from home at night and on weekends,[75] which creates more opportunities for leakage of trade secret information.

A final factor is the evolving perception of secrecy. IP law is based on the concept of ownership of information, and trade secret law in particular is based on owning confidential information. Generation Y and those even younger, however, came of age in a file-sharing culture where almost any information was free and easily available on the Internet. In 2000, for instance, Napster had approximately ten million users, mostly college students, sharing music in violation of copyright laws.[76] Those college students are now in the workforce, with access to their companies' trade secrets. Likewise, Facebook now has more than 800 million users,[77] many of whom post private, intimate information about themselves. In the short term, these changing social norms about protected information and privacy may help explain why trade secret misappropriation is increasing—why younger employees may think they are entitled to take certain information with them when they change jobs and why older employers may not agree.

In the long term, however, these norms actually may reduce the scope of trade secret protection. Norms change: America permitted drinking, then passed a constitutional amendment to forbid it, then passed another constitutional amendment to permit it.[78] If society embraces the "all information wants to be free" ethic, those norms may eventually undermine

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73. FOREIGN SPIES, *supra* note 55, at A-3.

74. *See* Mickey Meece, *Who's the Boss, You or Your Gadget?*, N.Y. TIMES, Feb. 5, 2011, at BU1.

75. Lucy P. Eldridge & Sabrina Wulff Pabilonia, *Bringing Work Home: Implications for BLS Productivity Measures*, MONTHLY LAB. REV., Dec. 2010, at 18 (reporting that around eight percent of non-farm business employees do some work from home).

76. Matt Richtel, *Napster Has a New Interim Chief and Gets a $15 Million Investment*, N.Y. TIMES, May 23, 2000, at 1.

77. Nathan Olivarez-Giles, *Facebook F8: Redesigning and Hitting 800 Million Users*, L.A. TIMES (Sept. 22, 2011), http://latimesblogs.latimes.com/technology/2011/09/facebook-f8-media-features.html.

78. U.S. CONST. amend. XVIII, *repealed by* U.S. CONST. amend. XXI.

the policies that currently bolster robust trade secret protection. Companies and their lawyers should pay attention to these potential trends.

C. REASON NO. 3: INCREASING VALUE OF TRADE SECRET INFORMATION

Trade secrets matter more than ever because trade secrets, like all IP, are increasingly valuable and play an expanding role in the American economy. Describing IP generally, one team of economists concluded: "Extensive economic research and analysis have established that economically-powerful forms of intellectual property, embodied in innovations, are the largest single factor driving economic growth and development . . . ."[79]

The Congressional Research Service found this trend specifically applicable to trade secrets: "As the United States continues its shift to a knowledge- and service-based economy, the strength and competitiveness of domestic firms increasingly depends upon their know-how and intangible assets. Trade secrets are the form of intellectual property that protects this sort of confidential information."[80] Our current information-based economy represents a shift from the previous economy, which was based on physical assets such as natural resources and capital goods. Obvious examples of the nation's new direction are the dozens of modern industries that rely extensively on intellectual property for their value. These include the software industry, entertainment industries such as music and movies, Internet-based industries, and life science industries such as genetics, proteomics, and pharmaceuticals.

Statistics on trade secrets are hard to come by and even harder to rely upon. Still, those that exist do help in grasping the significance of trade secrets to companies. Consider the total value of the 500 companies, most of them publicly held, that constitute the S&P 500. Cornerstone Research has found that in 1975, 17 percent of the total value of the S&P 500 consisted of intangible assets, which encompasses trade secrets and other forms of IP; by 2009, the value had grown to 81 percent.[81] Similarly, Forrester Research estimates that trade secrets account for two-thirds of the value of most firms' information portfolios.[82]

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79. Robert J. Shapiro & Kevin A. Hassett, *The Economic Value of Intellectual Property*, *in* USA FOR INNOVATION 20 (2005), *available at* http://www.sonecon.com/docs/studies/IntellectualPropertyReport-October2005.pdf.

80. JOHN R. THOMAS, CONG. RESEARCH SERV., R41391, THE ROLE OF TRADE SECRETS IN INNOVATION POLICY 2 (2010).

81. *See supra* note 8.

82. FORRESTER RESEARCH, INC., THE VALUE OF CORPORATE SECRETS: HOW COMPLIANCE AND COLLABORATION AFFECT ENTERPRISE PERCEPTIONS OF RISK 3 (2010).

As further evidence of the rising importance of trade secrets, consider the growing number of laws that criminalize trade secret misappropriation. In explaining why it passed the Economic Espionage Act, both the House and Senate Reports stated that Congress was reacting to the "growing importance of proprietary economic information," which, Congress prophesized, "will only continue to grow" as the "nation moves into the high-technology, information age."[83]

Washington is not only putting more emphasis on legal remedies for trade secret misappropriation, but also dedicating more resources to the enforcement of those laws. In 2010, the Department of Justice announced the Task Force on Intellectual Property and the appointment of fifteen new federal prosecutors and twenty new FBI agents to combat IP crime.[84] The steady stream of high-profile cases authorities have brought and settled is evidence of this dedication.[85] Among the feds' biggest catches of 2011 is Kexue Huang, who pleaded guilty to trade secret misappropriation from both Dow AgroSciences and Cargill.[86] Huang's first indictment in Indiana in 2010 was for misappropriation and transportation of Dow's trade secrets to China.[87] Later that year, a grand jury in Minnesota indicted Huang for trade secret misappropriation from Cargill.[88]

A final way to measure value is to analyze the cost of trade secret misappropriation. Estimates vary widely, but they often involve stratospheric

(defining "secrets" broadly to include "information that the enterprise creates and wishes to keep under wraps").

83. H.R. REP. NO. 104-788, at 4 (1996), *reprinted in* 1996 U.S.C.C.A.N. 4021, 4023–25; S. REP. NO. 104-359, at 7–8 (1996).

84. Jonathan B. New & Christy Nixon, *DOJ Steps up Prosecution for Trade Secret Theft*, NAT'L L. J., Jan. 31, 2011, at 14 (stating that, in 2010, the FBI opened at least sixty-six new crime investigations involving the alleged misappropriation of trade secrets).

85. 2010 U.S. INTELLECTUAL PROPERTY ENFORCEMENT COORDINATOR ANNUAL REPORT ON INTELLECTUAL PROPERTY ENFORCEMENT 59–60 (2011).

86. Andrew Harris, *Ex-Dow Scientist Admits to Economic Espionage, U.S. Says*, BLOOMBERG (Oct. 18, 2011), http://www.businessweek.com/news/2011-10-18/ex-dow-scientist-admits-to-economic-espionage-u-s-says.html. The two cases were consolidated in the District Court for the Southern District of Indiana. United States v. Huang, Nos. 1:10-CR-00102 & 1:11-CR-00163 (S.D. Ind. 2010); Press Release, U.S. Department of Justice, Chinese National Pleads Guilty to Economic Espionage and Theft of Trade Secrets (Oct. 18, 2011), *available at* http://www.justice.gov/opa/pr/2011/October/11-crm-1372.html [hereinafter Chinese National Press Release].

87. Chinese National Press Release, *supra* note 86. Huang's disclosure of Dow's trade secrets to Hunan University in China also resulted in an indictment for foreign transportation of stolen property. *Plea Agreement Reached in Trade Secret Theft Case*, BLOOMBERG BUSINESSWEEK, Sept. 15, 2011, http://www.businessweek.com/ap/financialnews/D9PP88N00.htm.

88. Harris, *supra* note 86.

numbers. ASIS International, a professional association of security managers, placed the cost of trade secret misappropriation in the United States in 2006 at $300 billion.[89] Using different metrics, McAfee, the computer security giant, estimated that in 2008 data leaks cost companies around the globe more than $1 trillion.[90]

D. REASON NO. 4: THE UTSA

Another reason for the rise in trade secrets generally, and trade secret litigation in particular, is the growth of a well-developed body of trade secret law. As of today, forty-seven states and the District of Columbia have enacted the UTSA in some form.[91]

To be clear, the UTSA itself has not caused the growth in trade secret litigation. While trade secret litigation has increased in the states that have enacted the UTSA, the three states that did not (Massachusetts, New York, and Texas) have seen increased trade secret litigation as well.

The point is that the widespread adoption of the UTSA has increased awareness of trade secret law—among lawyers, companies, judges, and others—and has provided greater consistency in the application of trade secret law and in the laws themselves. Before the UTSA, the states had greater disparities among themselves on various trade secret issues, ranging from the types of conduct that constituted trade secret misappropriation to the remedies afforded. The UTSA is not perfect, and trade secret law still varies from state to state in frustrating ways.[92] But the UTSA has provided a necessary starting point, establishing a template for legal remedies to trade secret misappropriation.[93]

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89. ASIS INTERNATIONAL, TRENDS IN PROPRIETARY INFORMATION LOSS 10 (2007), *available at* http://www.asisonline.org/newsroom/surveys/spi2.pdf.

90. Press Release, McAfee, Inc. Research Shows Global Recession Increasing Risks to Intellectual Property (Jan. 29, 2009), *available at* http://www.businesswire.com/news/home/20090129005493/en/McAffee-Research-Shows-Global-Recession-Increasing-Risks.html.

91. 1 MELVIN F. JAGER, TRADE SECRETS LAW § 3:29 (2011) (providing citations to statutes in the District of Columbia and the states that have enacted the UTSA).

92. David S. Almeling, *A Practical Case For Federalizing Trade Secret Law*, LAW360 (June 23, 2009), http://www.law360.com/articles/106724 (identifying six examples of interstate variations in trade secret law, presenting the practical problems these variations cause, and proposing federalization of trade secret law); *see also* Michael H. Bunis & Anita Spieth, *Common Law v. UTSA: The Last States Standing*, LAW 360, Apr. 2, 2012, http://www.law360.com/ip/articles/321776?nl_pk=86604097-1f36-4bfa-a7ca-96c7182cf1bc&utm_source=newsletter&utm_medium=email&utm_campaign=ip (identifying "dissimilarities in the trade secret jurisprudence among different states").

93. Risch, *supra* note 39, at 1 (stating that "[u]niform laws like the UTSA" provide "a consistent set of rules to provide settled expectations for interstate activities").

Thus, it is increasingly true that if a company protects its valuable information as trade secrets, there is a large, growing, well-developed, and relatively consistent body of law on which that company can rely to protect the information. The growth of trade secret litigation may have, indeed, created a positive feedback loop: more companies rely on trade secrets, which causes plaintiffs to bring more trade secret cases to the courts, which causes the body of trade secret law to develop further, which provides the doctrinal stability needed for more companies to rely on trade secrets. Please forgive the tautology, but the growth in trade secret litigation appears to be fueling a growth in trade secret litigation.

E. REASON NO. 5: FLEXIBLE (AND EXPANDING) SCOPE OF TRADE SECRETS

Another cause of the increase in trade secret litigation is the flexible definition of trade secrets. Because a "trade secret" is broadly defined as *any* information that is secret, derives economic value from that secrecy, and is the subject of reasonable measures to maintain its secrecy,[94] the category of material falling within this definition is continually expanding.

A small sample of the types of trade secrets that have been recognized by the courts includes chemical formulas, source code, methods, prototypes, prerelease pricing, financials, budgets, contract terms, business plans, market analyses, salaries, information about suppliers and customers, experiments, positive and negative experimental results, engineering specifications, laboratory notebooks, and recipes.[95] Real-world examples of this breadth encompass subject matter ranging from Church of Scientology religious texts[96] to a concept for a clickety-clacking railroad toy[97] to standardized tests for ninth graders.[98] The definition of a trade secret is potentially so broad that the meaning of "trade secret" is often defined by what it is not. Courts use the concept of an employee's "tool kit," or her generalized skills, knowledge, training, and experience,[99] to cabin the scope of trade secret law.

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94. Uniform Trade Secrets Act (amended 1985), 14 U.L.A. 529, § 1(4) (2005).

95. MICHAEL A. EPSTEIN, EPSTEIN ON INTELLECTUAL PROPERTY § 1.02[E][1] (5th ed. 2008 & Supp. 2009) ("As long as the definitional elements are met, virtually any subject matter or information can be a trade secret.").

96. Religious Tech. Ctr. v. Netcom On-Line Commc'n Servs., Inc., 923 F. Supp. 1231 (N.D. Cal. 1995).

97. Learning Curve Toys, Inc. v. PlayWood Toys, Inc., 342 F.3d 714 (7th Cir. 2003).

98. Prosonic Corp. v. Stafford, 539 F. Supp. 2d 999 (S.D. Ohio 2008).

99. JAMES POOLEY, TRADE SECRETS § 4.01[3][b] (2010) (describing the concept of an employee's personal "tool kit").

While the definition of a trade secret has long been broad, this breadth may end up contributing to a continued rise in trade secret litigation because it means that trade secret law is perfectly suited to the evolutionary (progression of old ideas) and revolutionary (creation of new ideas) nature of innovation.[100] As noted by one prominent commentator, "[T]rade secrets have gained importance because in many fields, the technology is changing so rapidly that it is outstripping the existing laws intended to encourage and protect inventions and innovations."[101]

One interesting, complicating issue regarding the definition of trade secretsis how technology may change the scope of trade secret protection in varying ways. Consider a recent case involving the interplay between a trade secret customer list and search engine technology. In 2010, recruiting company Sasqua Group sued its former employee for trade secret misappropriation of its customer information database.[102] The court acknowledged that the information in Sasqua's database "may well have been a protectable trade secret in the early years of Sasqua's existence when greater time, energy and resources may have been necessary to acquire the level of detailed information to build and retain the business relationships at issue here."[103] At the time of litigation, however, the court stated that the "exponential proliferation of information" on the Internet, including search engines and social media, makes this "a very different story," especially because the defendant demonstrated that the alleged trade secrets (i.e., information about customers) were readily available on the Internet.[104] The customer list is perhaps the quintessential trade secret, and one of the types of trade secrets that parties litigate most often.[105] The *Sasqua* court did nothing to change that, as the court recognized that the law certainly permits trade secret protection for some customer databases in the Information Age.

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100. For one example of the flexible use of trade secret law to address thorny subject matter, *see generally* Deepa Varadarajan, *A Trade Secret Approach to Protecting Traditional Knowledge*, 36 YALE J. INT'L L. 371, 417 (2011) (addressing the difficult subject matter issue of traditional knowledge within various intellectual property regimes and arguing that "[t]rade secret law can be a useful legal vehicle for traditional knowledge holders when dealing with outsiders' improper acquisition, disclosure, and use of relatively secret information").

101. JAGER, *supra* note 36, at § 1:1. An experienced patent litigant might respond that patent law also encompasses "anything under the sun that is made by man." Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980). While this is true, in practice the scope of patent law is narrower than that of trade secret law.

102. Sasqua Gr., Inc. v. Courtney, No. CV-10-528, 2010 WL 3613855, at *3 (E.D.N.Y. Aug. 2, 2010) (report and recommendation adopted Sept. 7, 2010).

103. *Id.* at *22.

104. *Id.*

105. *State Study*, *supra* note 2, at 72.

The court merely decided that Sasqua's database was not one of them. In short, while trade secrets encompass a broad range of subject matter that expands to accompany new technologies, some new technologies and trends—such an Internet search sites and the placement of once-private information online through social media—cause the scope of trade secret law to shrink.[106]

F. REASON NO. 6: THE RISE OF INTERNATIONAL THREATS

While U.S. citizens and companies steal trade secrets, increased threats from foreign individuals, companies, and governments also contribute to the growing importance of trade secrets.

By enacting the Economic Espionage Act in 1996, Congress sought in part to address the rise of trade secret misappropriation from foreign entities.[107] That is why one of the Act's two main provisions criminalizes misappropriating trade secrets with the knowledge or intent that the misappropriation will benefit a "foreign power."[108] President Obama has also stressed the threat of foreign economic espionage, warning in 2011 that "[t]he pace of foreign economic collection and industrial espionage activities against major U.S. corporations and U.S. [g]overnment agencies is accelerating."[109] And Robert S. Mueller III, the director of the F.B.I., reiterated those concerns when he stated that cyberattacks would soon replace terrorism as the agency's primary concern as hackers, particularly from China, steal huge amounts of valuable data and intellectual property from American companies.[110]

Several factors explain the rise in international threats. One is the internationalization of business. More and more U.S. companies operate internationally, whether tapping supply chains that employ foreign

106. While new technologies may expose certain once-protected information and thus render that information ineligible for trade secret protection, information disclosed through social media could still be protected. *See, e.g.*, Christou v. Beatport, L.L.C., No. 10-cv-02912, 2012 WL 872574, at *17 (D. Colo. Mar. 14, 2012) (denying a motion to dismiss, reasoning that "[w]hether plaintiffs' MySpace friends list is a trade secret is question of fact"); PhoneDog v. Kravitz, No. 11-03474, 2011 WL 5415612 (N.D. Cal. Nov. 11, 2011) (denying a motion to dismiss that argued that the identity of Twitter followers and the password to their Twitter accounts could not constitute trade secrets).

107. *See generally* H.R. REP. NO. 104-788 (1996), *reprinted in* 1996 U.S.C.C.A.N. 4021, 4023–25 ("More disturbingly, there is considerable evidence that foreign governments are using their espionage capabilities against American companies."); S. REP. NO. 104-359, at 7 (1996).

108. 18 U.S.C. § 1831 (1996).

109. FOREIGN SPIES, *supra* note 55, at iii.

110. Richard A. Clarke, *How China Steals Our Secrets*, N.Y. TIMES, Apr. 2, 2012, http://www.nytimes.com/2012/04/03/opinion/how-china-steals-our-secrets.html?_r=1.

manufacturers or relying on foreign capital markets. Simply put, as more American companies venture overseas and take their trade secrets with them, those trade secrets become more vulnerable to misappropriation by foreign parties.

Another factor is technology. As detailed above, hackers can access trade secrets from anywhere in the world. No longer do thieves need to physically abscond with the trade secrets. All they need is a computer with an Internet connection.

Further, certain countries view stealing trade secrets as an aid to development. As summarized by President Obama, "Chinese leaders consider the first two decades of the 21st century to be a window of strategic opportunity for their country to focus on economic growth, independent innovation, scientific and technical advancement, and growth of the renewable energy sector," and "China's intelligence services, as well as private companies and other entities, frequently seek to exploit Chinese citizens or persons with family ties to China who can use their insider access to corporate networks to steal trade secrets using removable media devices or e-mail."[111] Of the seven Department of Justice prosecutions under the Economic Espionage Act in 2010, six involved a link to China.[112]

One recent example of trade secret theft involving China is the case of Xiang Dong "Mike" Yu, a project engineer for the Ford Motor Company who smuggled Ford trade secrets to China while on a job hunt that led to a position with one of Ford's competitors, Foxconn PCE Industry, Inc.[113] Yu copied 4,000 Ford documents, estimated to be worth between $50 million and $100 million, onto an external hard drive and delivered them to a Foxconn manager at that manager's residence in Shenzhen. The documents contained trade secret design specifications for engines and electric power supply systems. The United States government launched an aggressive prosecution under the federal Economic Espionage Act, seeking, in the words of the U.S. Attorney in Detroit, Barbara L. McQuade, to "protect the intellectual property of our U.S. automakers, who invest millions of dollars and decades of time in research and development to compete in a global

111. *Id.* at 5.

112. *Id.*

113. *See* Erin Marie Daly, *Ex-Ford Worker Gets 6 Years for Trade Secrets Theft*, LAW360.COM (April 12, 2011), http://www.law360.com/topnews/articles/210020/ex-ford-worker-gets-6-years-for-trade-secrets-theft; Ben Klayman, *Ex-Ford Engineer Sentenced for Trade Secrets Theft*, REUTERS.COM (April 13, 2011), http://www.reuters.com/article/2011/04/13/us-djc-ford-tradesecrets-idUSTRE73C3FG20110413.

economy."[114] Yu pleaded guilty, and in 2011, a federal judge sentenced him to nearly six years in prison followed by deportation to China.

Although China may be widely perceived as the largest international threat to trade secret misappropriation, it is not the only one. Surveys in 2008 and 2010 found that more than one thousand information technology professionals perceive that Pakistan, Russia, and India loom right behind.[115]

A major issue with the rise of international trade secret misappropriation is the difficulty in enforcement. Depending on the facts of the misappropriation, U.S. courts may not have jurisdiction to hear the case.[116] Obtaining justice in foreign countries is likewise difficult because foreign countries vary widely in their judicial procedures, trade secret protection, and respect for the rule of law. International treaties help protect trade secrets, principally Article 1711 of the North American Free Trade Agreement[117] and Article 39 of the Trade-Related Aspects of Intellectual Property Rights.[118] But not all countries adhere to these rules, and even in some countries that do, cultural norms and enforcement problems can weaken trade secret protection. Although China, for example, has rules that protect trade secret rights, enforcement is complicated and expensive, and there is a high burden of proof that makes litigation an ineffective way to protect trade secrets in all but the clearest cases.[119] The European Union, for another example, has a

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114. DOJ press release, *Chinese National Sentenced Today For Stealing Ford Trade Secrets* (Apr. 12, 2011), *available at* http://www.justice.gov/usao/mie/news/2011/2011_4_12_xyu.html.

115. MCAFEE, UNSECURED ECONOMIES: PROTECTING VITAL INFORMATION 1, 12 (2009) ("Three countries, in particular, stood out to the survey respondents—perhaps reflecting broader security perceptions. Respondents cited China, Pakistan and Russia as the worst-rated countries when it comes to the protection of digital assets. Pakistan, China and Russia, in that order, were also perceived to have the worst reputations for pursuing or investigating security incidents."); MCAFEE, UNDERGROUND ECONOMIES: INTELLECTUAL CAPITAL AND SENSITIVE CORPORATE DATA NOW THE LATEST CYBERCRIME CURRENCY 10 (2011) (presenting data of countries with which companies have avoided doing business).

116. *See* TianRui Group Co. Ltd. v. Int'l Trade Comm'n, 661 F.3d 1322 (Fed. Cir. 2011) (finding that, on the facts of this particular case, the U.S. International Trade Commission had jurisdiction to address trade secret misappropriation that occurs in a foreign country, but in other situations, the presumption against extraterritoriality would govern).

117. North American Free Trade Agreement, art. 1711, U.S.-Can.-Mex., Dec. 17, 1992, 32 I.L.M. 605 (1993).

118. Agreement on Trade-Related Aspects of Intellectual Property Rights, Including Counterfeit Goods, art. 39, Dec. 15, 1993, 33 I.L.M. 81 (1994).

119. J. Benjamin Bai & Guoping Da, *Strategies for Trade Secrets Protection in China*, 9 NW. J. TECH. & INTELL. PROP. 351, 366 (2011) (demonstrating that while a higher burden of proof and the absence of a U.S.-style discovery procedure make it difficult to enforce trade secret laws in Chinese courts, companies have nevertheless succeeded by following certain practices. Such strategies include requesting evidence preservation orders in civil cases,

patchwork of laws that do not always protect the trade secret owner. As a 2012 publication of the European Commission described, "[i]n some countries the protection is effective; in others—sometimes because of the difficulty in enforcement—the law provides inadequate protection" for trade secrets.[120]

G. REASON NO. 7: INTERACTION WITH PATENT LAW

Recent U.S. patent law developments have tilted the balance between whether a business should pursue patents or trade secrets.

Talk of trade secrets often brings up talk of patents because they both protect some of the same types of information. The owner of certain kinds of information—including formulas, computer programs, and manufacturing processes—may have the option of pursuing either trade secret or patent protection. But the subject matter of patents and trade secrets is far from coextensive. While any information can be a trade secret, for example, patents cover a much narrower range of subject matter. Also, many categories of trade secrets—among them customer lists, financial information, HR data, and business strategy—are not eligible for patent protection.

The reason to discuss patents in an article about the growth of trade secret litigation is that in situations that present a company the option of patent or trade secret protection, the critical question is which to pursue. There is no simple answer.[121]

While companies continue to protect certain types of information as patents (patent litigation increased about 300 percent from 1990–2004, and has been roughly steady since),[122] there are several recent trends that affect a company's choice and may contribute to an increased reliance on trade secrets.

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utilizing the criminal court system, and actively employing preventative measures, such as confidentiality and non-compete agreements).

120. HOGAN LOVELLS INT'L LLP, REPORT ON TRADE SECRETS FOR THE EUROPEAN COMMISSION 43 (2012), *available at* http://ec.europa.eu/internal_market/iprenforcement/docs/trade/Study_Trade_Secrets_en.pdf.

121. *See, e.g.*, Atl. Research Mktg. Sys., Inc. v. Troy, 659 F.3d 1345, 1357 (Fed. Cir. 2011) (recognizing "the inherent tension" created by alleging that a defendant "misappropriated trade secrets, while simultaneously asserting that the products [the defendant] Troy developed with the misappropriated trade secrets infringed [the plaintiff's] patent).

122. Kyle Jensen, *Guest Post: Counting Defendants in Patent Litigation*, PATENTLY-O (Oct. 27, 2010), www.patenlyo.com/patent/2010/10/guest-post-counting-defendants-in-patent-litigation.html.

In 2011, having debated a patent bill each of the previous six years, Congress finally passed the Leahy-Smith America Invents Act ("AIA"), the largest legislative reform of patent law since the U.S. Patent Act of 1952.[123] The AIA makes dozens of changes to patent law, some of which reduce the incentive to patent inventions and also to assert those patents in litigation—reforms that increase the incentive to rely on trade secret protection. For example, the AIA expands the prior-use defense, meaning that companies that would otherwise infringe a patent have a defense if they were engaging in those acts prior to the patent's filing;[124] because such use often is confidential and maintained as a trade secret, this provision benefits trade secret owners. But many practitioners, including the author, believe that the prior use defense does not dramatically reconfigure the balance between patents and trade secrets.[125] The AIA also raises the standard for which defendants can be joined in the same action,[126] which removes a litigation strategy used by many patent plaintiffs to force companies, sometimes competitors, to have to litigate in the same action. Furthermore, the AIA lowers the standards for *inter partes* reexamination from "substantial new question of patentability" to "a reasonable likelihood that the requestor will prevail"[127] and enables third parties to submit information that may be relevant to the granting of a patent.[128]

But the AIA is not a lopsided win for defendants, and it contains some provisions that make patents more desirable, including permitting patent owners to cure inequitable conduct and reducing the threat of false marking litigation.[129] The AIA also benefits patent owners by providing more money to the U.S. Patent & Trademark Office, which has been increasingly slow to issue patents: in 1997 there were 2.25 patents pending for every one issued, but by 2008 the rate had risen to 6.6 pending patents to every issued

123. *See* Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified as amended in scattered sections of 35 U.S.C.).

124. *Id.* § 5(a) & (c). For a detailed description of the defense written by the U.S. Patent & Trademark Office, *see generally* U.S. PATENT & TRADEMARK OFFICE, REPORT TO CONGRESS ON THE PRIOR USER RIGHTS DEFENSE (2012).

125. David S. Almeling & Darin W. Snyder, *Guest Post: The New, Improved Prior Use Defense: The Same Patent vs. Trade Secret Calculus*, TRADE SECRET LITIGATOR (Apr. 17, 2012), http://www.hahnloeser.com/tradesecretlitigator/post/2012/04/17/Guest-Post-David-Almeling-and-Darin-Snyders-Take-on-the-Prior-Use-Defense-under-the-America-Invents-Act-and-Trade-Secrets-No-Big-Deal!.aspx.

126. *Id.* § 19(d)(1).

127. *Id.* § 6(c)(3)(A)–(B).

128. *Id.* § 8.

129. *See id.* § 16(a)–(b).

patent.[130] The AIA thus cuts both ways, but in the end, it does more to restrict the power of patent owners and plaintiffs, potentially causing more companies to prefer trade secret protection for certain inventions.

In addition to the AIA, a series of recent Supreme Court decisions tilts the patent-vs.-trade-secret calculus in favor of trade secrets.[131]

In its 2012 decision in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, the Supreme Court applied the law-of-nature exception, reversing the Federal Circuit and invalidating a patent that claimed a method for determining dosing ranges of drugs used to treat autoimmune diseases.[132] The Court focused on the intersection between patents that claim non-patentable "laws of nature, natural phenomena, and abstract ideas" and those that claim a patent-eligible "application of a law of nature or mathematical formula to a known structure or process."[133] This decision, which arguably expands the law-of-nature exception, especially in the pharmacology and biotechnology industries, could cause life science and other companies to reconsider whether to pursue patent or trade secret protection. If they decide to pursue patent protection, the decision could impair the scope and even validity of the resulting patents.

In *Bilski v. Kappos*, the Supreme Court in 2010 revised what should be the appropriate test for patentable subject-matter eligibility and narrowed protections for business method patents, holding that the claims at issue (involving a hedging method for commodities) were not patentable processes because they are attempts to patent abstract ideas.[134]

In *KSR International Co. v. Teleflex, Inc.*, the Supreme Court in 2007 revisited the nonobviousness standard for the first time in forty years.[135] The Court reversed a lower court's decision that a particular patent would not have been obvious and limited which inventions are sufficiently nonobvious to qualify for patent protection. *KSR* thus increased the burden of obtaining

130. *Patent Office — "First to File" Bill (2011)*, N.Y. TIMES, Sept. 9, 2011, http://topics.nytimes.com/top/news/science/topics/inventions_and_patents/index.html.

131. R. Mark Halligan, *Trade Secrets v. Patents: The New Calculus*, ABA Intellectual Property Law (ABA-IPL) LANDSLIDE 10, 10–13 (July/Aug. 2010) (summarizing some of these decisions), *available at* www.americanbar.org/content/dam/aba/migrated/intelprop/magazine/LandslideJuly 2010_halligan.authcheckdam.pdf.

132. 132 S. Ct. 1289, 1294 (2012).

133. *Id.* at 1293–94.

134. Bilski v. Kappos, 130 S. Ct. 3218, 3329–30 (2010); *see generally* Dennis Crouch & Robert P. Merges, *Operating Efficiently Post-Bilski by Ordering Patent Doctrine Decision-Making*, 25 BERKELEY TECH L.J. 1673 (2010) (describing ways to minimize the cost of administering the holding in *Bilski*).

135. 550 U.S. 398 (2007).

and enforcing a patent. In obtaining a patent, *KSR* means that the patent office is more likely to find that an alleged invention is obvious and thus not entitled to patent protection.[136] Finally, in litigation, *KSR* means that alleged infringers have a greater ability to argue that an issued patent is obvious and should not have been issued at all.[137]

In *eBay Inc. v. MercExchange, L.L.C.*, the U.S. Supreme Court in 2006 raised the threshold for obtaining an injunction.[138] In rejecting the then-prevailing rule that an injunction may issue automatically on a finding of patent infringement, the Court held that a federal court must still weigh the four factors traditionally used to determine if an injunction should issue: "(1) that [the plaintiff] has suffered an irreparable injury; (2) that remedies available at law . . . are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction."[139] With this decision, the Court reduced the threat of an injunction from a patent infringement case and, therefore, decreased the potential reward in asserting patent infringement and the concomitant risk in defending against that assertion.

Finally, in a series of recent cases, including *Uniloc USA, Inc. v. Microsoft Corp.*,[140] *ResQNet.com, Inc. v. Lansa, Inc.*,[141] and *Lucent Technologies, Inc. v. Gateway, Inc.*,[142] the Federal Circuit has gradually reduced the amount of compensatory and enhanced damages for patent infringement.

Another change in patent law that affects trade secret law is the eighteen-month publication rule of the American Inventors Protection Act of 1999. Before 1999, applicants were in a win-win situation. They could file a patent application for their trade secret and be assured that they would either obtain a patent (if the patent issued) or retain their trade secret (if the application was denied). Under the eighteen-month publication rule, however, a regular U.S. patent application will be published eighteen months after filing unless

136. JANICE M. MUELLER, PATENT LAW 219 (3d ed. 2009).

137. *Id.* at 219–24.

138. 547 U.S. 388 (2006).

139. *Id.* at 391–92.

140. 632 F.3d 1292 (Fed. Cir. 2011) (overturning a $388 million jury verdict and holding that the "25 percent rule" is a "fundamentally flawed tool for determining a baseline royalty rate in a hypothetical negotiation").

141. 594 F.3d 860 (Fed. Cir. 2010) (vacating a $500,000 damages award based on a 12.5% royalty rate and reasoning that the royalty rate was excessive and inadequately supported by the evidence).

142. 580 F.3d 1301 (Fed. Cir. 2009) (vacating the jury's $358 million damages award and reasoning that the damages award was not supported by the evidence).

certain steps are taken.[143] Applicants have to gamble because if they file a patent application that does not mature into an issued patent, they have neither trade secret nor patent protection. Few applicants take these protective steps: 85 percent of applications filed by large entities, and 74 percent of those filed by small entities, were published under this rule.[144] It thus appears that some applicants are not taking this risk and, instead, are forgoing patent protection for trade secret protection.

Cost is another consideration that weighs in favor of trade secrets. Patents are increasingly expensive to obtain, maintain, and enforce, including the cost of obtaining patent rights in each country.[145] In contrast, there are no formal requirements to designate information as trade secrets, since they exist without any specific filing procedure. And while a trade secret owner must take reasonable steps to ensure secrecy, courts generally have held that reasonableness is a relatively lax standard.[146] Patents, on the other hand, require the monitoring and payment of maintenance fees that, if missed, can result in the loss of rights.[147] Another major cost differential between the two categories is litigation. For high-stakes litigation, defined as litigation in which more than $25 million is at risk, the reported average cost to handle patent litigation in 2009 was $5.5 million while the cost for trade secret litigation was $2.2 million.[148] Trade secret litigation has long cost less; in 2001, patent litigation ran $3 million compared with $1 million for trade secret litigation.[149]

None of this is to say that companies should always choose trade secret protection over patents. Indeed, patents are better at protecting certain types of inventions and for implementing certain types of business strategies. The point here is that given the partial overlap between patent and trade secret protection, the changing scope of patent law might encourage a company to use trade secret law instead. Indeed, new survey findings from the National Science Foundation and the U.S. Census Bureau suggest this trend. While the numbers differ across industries, most businesses identified trademarks and

143. 35 U.S.C. § 122(b)(1)(A) (2006).

144. U.S. GOV'T ACCOUNTABILITY OFFICE, REPORT TO CONGRESSIONAL COMMITTEES: PATENTS: INFORMATION ABOUT THE PUBLICATION PROVISIONS OF THE AMERICAN INVENTORS PROTECTION ACT 4 (2004).

145. GURIQBAL SINGH JAIYA & CHRISTOPHER M. KALANJE, MANAGING PATENT COSTS: AN OVERVIEW 10–11 (2006), *available at* http://www.wipo.int/export/sites/www/sme/en/documents/pdf/managing_patent_costs.pdf.

146. Reasonable measures need not be perfect or heroic; they only need to be reasonable. POOLEY, *supra* note 99, at § 4.04[2][b] ("No system is perfect, and the people who put it to use certainly are not perfect. Some mistakes are permitted.").

147. 35 U.S.C. § 41(b) (2006).

148. AM. INTELL. PROP. LAW ASS'N, REPORT OF ECONOMIC SURVEY 29–30 (2009).

149. AM. INTELL. PROP. LAW ASS'N, REPORT OF ECONOMIC SURVEY 25–26 (2007).

trade secrets as important forms of IP protection, followed by copyrights, and then by patents.[150]

IV. CONCLUSION (AND A PREDICTION)

Understanding trade secrets requires more than knowledge of the law. It is also about the evolving technologies, social norms, politics, economics, and other factors that shape the use and misuse of trade secrets. This Article presented seven such factors that help explain the increasing importance of trade secrets.

Identifying causes for the remarkable growth of trade secrets over the past few decades does not, however, foretell whether these trends will continue. Some of the seven factors discussed above, in fact, augur neither more nor less trade secret litigation. The balance between patent law and trade secret law, for example, has varied over the past few decades as Congress and courts intermittently bolstered or hampered the patenting of inventions.

Still, most of the factors discussed above show no sign of abating. It is difficult to imagine technology, for example, regressing to a world of hard-copy documents and file cabinets. The shift from an economy based on capital goods toward one based on informational assets has been a constant over the past half-century and appears to be continuing in that direction. Courts' familiarity and comfort with the UTSA will only increase as companies file more trade secret cases and courts hear those cases. And the relentless internationalization of business will continue to expose American companies' trade secrets to misappropriation by foreign entities.

In short, the seven trends discussed here, and the corresponding boom in trade secret litigation, suggest that trade secrets will only become more important in years to come.

150. JOHN E. JANKOWSKI, BUSINESS USE OF INTELLECTUAL PROPERTY PROTECTION DOCUMENTED IN NSF STUDY, INFOBRIEF 1 (Feb. 2012), *available at* http://www.nsf.gov/statistics/infbrief/nsf12307.

BUILDING THE GLOBAL GREEN PATENT HIGHWAY: A PROPOSAL FOR INTERNATIONAL HARMONIZATION OF GREEN TECHNOLOGY FAST TRACK PROGRAMS

Eric L. Lane†

ABSTRACT

As governments around the world have recognized the importance of development and implementation of clean technologies in mitigating climate change, they have looked to patenting procedures as a mechanism to promote and accelerate green innovation. In particular, many national intellectual property offices have implemented programs that provide expedited examination of patent applications directed to green technologies. These green patent fast track programs vary widely in their rules, both in eligibility requirements and process parameters. Because of these disparities, it can be costly and time consuming for applicants and their patent attorneys to select which green technology patent fast track programs to utilize, to determine whether and how to utilize such programs, and to prepare separate submissions for different programs. This Article recommends that the disparate fast track programs for green patent applications be harmonized to make eligibility and process requirements uniform across all national intellectual property offices. This article conducts a critical analysis of the eligibility and process requirements of existing programs, and, drawing from the analysis, suggests a balanced approach that maximizes eligibility yet imposes reasonable process restrictions to prevent significant increases in the workload of patent examiners. A standardized and balanced international system of expedited examination would encourage greater participation in green technology fast track programs and reduce the time to grant for a larger number of green patents, thereby fostering development and diffusion of green technologies.

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I. INTRODUCTION

It is widely recognized that innovation in green technologies will be a central component of any solution to the problem of global warming.[1] Of the statutory and regulatory vehicles that promote technological innovation, intellectual property regimes, particularly patent laws and rules, are perhaps the most important.[2] Historically, governments implemented patent systems to create or heighten incentives for industry to invest financial resources in research and development ("R&D") of new technologies.[3] In many instances, the exclusivity conferred by a patent may provide adequate return on investment to justify the financial risk of research and development.[4]

While R&D is necessary for successful innovation in green technologies, it is not sufficient. R&D is, at most, only half of the equation for green technology innovation. The formulation of an idea for a green technology invention, even a prototype of the invention, cannot begin to alleviate global warming unless and until the invention is implemented.[5] Green technologies,

1. *See* Sarah M. Wong, *Environmental Initiatives and the Role of the USPTO's Green Technology Pilot Program*, 16 MARQ. INTELL. PROP. L. REV. 233, 237–38 (2012) ("There is a general consensus that new eco-efficient, clean, and economically competitive technology is needed to solve the 'green' problem.").

2. *See, e.g.*, ROBERT MERGES, INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 127 (4th ed. 2007) (stating that the grant of patent protection "provides a market-driven incentive to invest in innovation, by allowing the inventor to appropriate the full economic rewards of her invention").

3. *See, e.g.*, Matthew W. Coryell, *Patent Law as an Incentive to Innovate Not Donate: The Role of the U.S. Patent System in Regulating Ownership of Human Tissue*, 36 J. CORP. L. 449, 451 (2011) (stating the theory that the patent system "provides an incentive for inventors to invest their time and resources necessary for invention").

4. *See* Francesca Cornelli & Mark Schankerman, *Patent Renewals and R&D Incentives*, 30 RAND J. ECON. 197, 198 (1999) (discussing the effects of differentiated patent length on the incentive to invest in R&D).

5. *See* CHRISTOPHER M. ARENA & EDUARDO M. CARRERAS, THE BUSINESS OF INTELLECTUAL PROPERTY 59 (Oxford University Press 2008) (stating that innovation is

particularly those that relate to renewable energy generation, need major manufacturers to build them, skilled installers and operators to deploy them, well-funded project developers to finance the facilities that use them—such as wind farms and solar plants—and utilities to purchase and distribute the energy generated from them.

To move green products from factory to field often requires complex business transactions that include a technology transfer component such as an intellectual property license.[6] Frequently, then, patents covering green technologies are implicated in business deals to implement clean tech products and services.[7] Generally, too, clean tech startups and established companies use technology transfer and intellectual property licensing in a variety of ways to provide revenue opportunities and operational flexibility.[8]

The complex web of manufacturing, financing, installation, operation, and distribution is sometimes contained within national borders, but increasingly spreads across borders via a global network of stakeholders.[9] Most, if not all, of the major clean tech industry players today are themselves multinational corporations or have lucrative cross-border partner or

"broader than creativity and invention in that it includes not only the formulation of ideas, but the implementation of those ideas as well").

6. *See, e.g.*, *Ingenius Engines to Generate Electricity from Waste Oil*, MACHINERY LUBRICATION, http://www.machinerylubrication.com/Read/2255/ingenius-engines-to-generate-electricity-from-waste-oil (last visited Mar. 9, 2012) ("The license [between Cyclone Power Technologies and Phoenix Power Group LLC] provides Phoenix Power with exclusive North American and Australian rights to develop and sell power generator systems utilizing Cyclone's award-winning external combustion engines, which will run on waste oil fuels such as motor oil from cars, trucks and busses."); *see also* Eric Wesoff, *Innovalight: Successful Solar Startup, Troubling Exit*, GREENTECH MEDIA (Jul. 28, 2011), http://www.greentechmedia.com/articles/read/Innovalight-Successful-Solar-Startup-Troubling-Exit/ ("The platform license business model is novel and seems to be working. Innovalight provides their silicon ink at a nominal cost—that is not the primary source of their revenue. The licensing model is structured so that Innovalight's customers pay a fee for every wafer produced that uses the Innovalight special sauce.").

7. *See* discussion *infra* Section II.C (discussing eSolar master licensing deals with Penglai Electric in China and ACME Group in India).

8. One of the Author's clients is negotiating an agreement with a major power equipment manufacturer to license technology patented in less than two years via the U.S. Patent and Trademark Office Green Technology Pilot Program. In another example, GreenShift Corporation ("GreenShift"), a New York developer of biofuel production technologies, has licensed some of its patented and patent-pending bioreactor technologies to Carbonics Capital Corporation Electric ("Carbonics") for use with algae. The license limits Carbonics' use to the algae field and limits use that would conflict with GreenShift's core business of ethanol production. *See* ERIC L. LANE, CLEAN TECH INTELLECTUAL PROPERTY: ECO-MARKS, GREEN PATENTS, AND GREEN INNOVATION 79–80 (2011).

9. *See* discussion *infra* Section II.C.

customer relationships.[10] Therefore, holding green patents in a number of countries and jurisdictions around the world helps clean tech companies to effectively deploy their products globally.

In recognition of the important role patents play in both development and implementation of clean technologies, many national intellectual property offices around the world have initiated accelerated examination programs for green patent applications to reduce the time necessary for clean tech innovators to obtain issued patents.[11] While all of these programs share the common goal of expediting green patents, they vary widely in their requirements for eligibility and participation. The disparate program requirements can make it costly and time consuming for applicants and their patent attorneys to take advantage of the green patent fast track programs in multiple jurisdictions.[12]

To be sure, the fast track programs provide a useful mechanism for expediting green innovation. But they could be made more effective if they were standardized. Accordingly, this Article posits that the programs should be harmonized to make participation easier and more efficient. Standardization should be implemented through a balanced approach that maximizes eligibility yet imposes reasonable process restrictions to avoid a significant spike in the workloads of the intellectual property offices.

Part II of this Article discusses the role of green patents in clean tech innovation, with particular attention given to patent licensing in domestic and international business transactions deploying clean technologies. Part III provides an overview of the various programs in place in national intellectual property offices for expedited examination of green patent applications and describes their general benefits. Part IV conducts a critical analysis of the key

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10. The General Company, for example, is a leader in several clean technology sectors, particularly in the wind industry. *See, e.g.*, American Wind Energy Association Annual Wind Industry Report, Year Ending 2008 at 10, *available at* http://www.awea.org/_cs_upload/learnabout/publications/5094_1.pdf ("GE Energy continues to dominate the [wind] market, with 43% of the newly installed capacity in 2008 and over 48% of the over 5,000 turbines installed in 2008."); GE Fact Sheet, *available at* http://www.ge.com/company/factsheets/corporate.html; *see also* discussion *infra* Section II.C.

11. Such accelerated examination programs include the UK Intellectual Property Office's Green Channel, and programs in the Canada Intellectual Property Office, IP Australia, and the Korean Intellectual Property Office.

12. Several of the Author's clients have elected to forgo participation in the Japan Patent Office accelerated examination program because of the high cost of compliance with the program rules. Some of the Author's clients have paid increased legal bills because of the additional attorney work needed to draft arguments and conform claims to the U.S. Patent and Trademark Office Green Technology Pilot Program's initial technology classification requirement.

program features and describes how some of the major drawbacks adversely affect patent practice. This Part also illustrates the distinction between program rules directed to eligibility, in particular subject matter eligibility, and those that relate to process requirements.

Part V proposes harmonization of the disparate green technology fast track programs and argues the programs should be open to a wide array of technology categories yet be limited by certain process restrictions with respect to the patent claims and prosecution. This Part argues that such a balanced approach would increase utilization of the programs without overburdening the intellectual property offices. Finally, this Part concludes with a proposed set of program rules for a standardized international green patent fast track system that would feature broad subject matter eligibility but reasonable process restrictions.

II. THE IMPORTANCE OF GREEN PATENTS IN CLEAN TECH INNOVATION

This Part presents some of the challenges of green innovation, particularly the high cost of developing and implementing green technologies, and discusses some of the ways clean tech companies are using patents to meet those challenges. For instance, a patent licensing business model is proving successful for many clean tech startups, some of which are profiled in this Part. Patents are also acting as vehicles for implementation and international transfer of green technologies in international business transactions, particularly in emerging markets such as India and China. Thus, this Part concludes that green patents are playing a critical role in promoting innovation in the clean tech industry.

A. THE CLEAN TECH CHALLENGE: INNOVATION IN A CAPITAL-INTENSIVE INDUSTRY

There is a general consensus among those who believe in anthropogenic climate change that substantial technological innovation is necessary to slow or stop the warming of our planet.[13] But that may understate the challenge.

13. *See, e.g.*, Jonathan H. Adler, *Eyes on a Climate Prize: Rewarding Energy Innovation to Achieve Climate Stabilization*, 35 HARV. ENVTL. L. REV. 1, 3 (2011) (stating that if the United States is to come close to achieving reductions in greenhouse gas emissions of eighty percent by the year 2050, "let alone the reductions necessary for atmospheric stabilization, substantial innovation in energy and climate-related technologies is necessary"); Deborah Behles, *The New Race: Speeding Up Climate Change Innovation*, 11 N.C. J.L. & TECH. 1, 2 (2009) (commenting that the United States "needs to encourage the creation and disclosure of climate change innovation to mitigate potentially catastrophic effects").

Given the scope and complexity of the climate change problem,[14] we will need an unprecedented degree of technological advancement to meet the emissions targets necessary to maintain global temperatures at a safe level.[15] Long-term projections for global carbon emissions in cases where "transformative" new green technologies are deployed are significantly better than those models based on use of older technologies.[16] Similarly, the projected cost of stabilizing environmental carbon dioxide levels is also much lower with expected technological advances than if we were to rely on existing green technologies.[17]

The formidable challenge of raising our technological innovation to an unprecedented level has turned policymakers' attention to mechanisms that can foster development and deployment of green technologies. The patent system, in particular, has been an area of intense focus.[18] This is due to the long-standing belief[19] that patents drive innovation by providing the incentive

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14. *See* Adler, *supra* note 13, at 2 ("Global climate change is a terribly vexing environmental problem. Its scope, complexity, and potential costs are daunting.").

15. *See* Adler, *supra* note 13, at 3 (arguing that "[n]othing short of a clean energy revolution will be capable of meeting [the GHG emissions reduction of eighty percent by 2050] target while maintaining or achieving acceptable standards of living throughout the world").

16. *See* Jae Edmonds, Selected Key Findings from the Global Energy Technology Strategy Program 8, Presentation to "Seminar on Climate Change & Innovative Technologies" at 8 (Jul. 13, 2007), *available at* http://www.uschamber.com/sites/default/files/issues/environment/files/presentationofjaeedmonds.pdf (showing that projected global carbon emissions using 2005 clean technologies is 40 gigatons by 2080, and projected global carbon emissions using transformative new technologies is 7.5 gigatons by 2080).

17. *See* Rebecca Henderson & Richard G. Newell, *Accelerating Energy Innovation: Insights from Multiple Sectors*, Harvard Business School Working Paper 10-067, *available at* http://www.hbs.edu/research/pdf/10-067.pdf ("Modeling scenarios of cost-effective global climate change mitigation policy suggest that, for atmospheric stabilization targets in the range of 450–550 parts per million CO2, the cost of GHG mitigation through 2050 *without significant innovation in the underlying technologies* would require additional trillions or tens of trillions of dollars (Newell 2008)") (emphasis in original).

18. *See, e.g.*, Estelle Derclaye, *Not Only Innovation but also Collaboration, Funding, Goodwill and Commitment: Which Role for Patent Laws in Post-Copenhagen Climate Change Action*, 9 J. MARSHALL REV. INTELL. PROP. L. 657, 659–69 (discussing mechanisms to "green" the patent laws to accelerate international transfer of clean technologies); Bronwyn H. Hall & Christian Helmers, *The Role of Patent Protection in (Clean/Green) Technology Transfer*, 26 SANTA CLARA COMPUTER & HIGH TECH. L.J. 487, 493–507 (surveying the literature on the role of patent protection in facilitating technology transfer); Wong, supra note 1, at 242 ("Many solutions to the problems related to patent dissemination have been proposed").

19. This belief was enshrined in Article I, Section 8, Clause 8 of the U.S. Constitution, which gives Congress the power "to promote the Progress of Science and useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries."

to invest in R&D of new and improved technologies.[20] Patents motivate investors to spend substantial sums on R&D, the theory holds, because the exclusivity of a patent on a resulting invention mitigates risk through its promise of a better return on the investment during the limited monopoly period.[21]

That promise is critical in the clean tech industry, in which commercial scale-up is often very capital intensive.[22] Commercialization costs for successful renewable energy facilities, particularly for large-scale projects, are extremely high and require complex equipment and infrastructure.[23] A utility-scale solar thermal plant, for instance, can cost $2–3 billion, and construction of a wind farm typically costs hundreds of millions of dollars.[24] Even large established companies with mature technologies and successful commercial products face challenges when negotiating viable products.[25] The approximately twenty-year term of a patent may provide sufficient time for an investor or a company to recoup its investment in a renewable energy facility.

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20. *See generally* Teneille R. Brown, *The Eminence of Imminence and the Myopia of Markets*, 9 J. MARSHALL REV. INTELL. PROP. L. 674, 682–84 (discussing the theory and practice of patent protection and how patents are believed to foster innovation and investment in R&D).

21. *See id.* at 683 ("Without the potential for patenting successful products, many U.S. investors would put their money elsewhere, as a substantial sum of funds given toward basic research never yields fruit"); *see also* Uma Suthersanen & Graham Dutfield, *Innovation and the Law of Intellectual Property*, *in* INNOVATION WITHOUT PATENTS: HARNESSING THE CREATIVE SPIRIT IN A DIVERSE WORLD 17 (Uma Suthersanen et al. eds., 2007) ("The traditional justification of the patent systems is that market power is conferred on an inventor for a limited duration for two purposes. First, the inventor is granted a reward for the introduction of technological developments by means of a buffer of protection against other competitors, and this guaranteed term of patent protection will act as a stimulus for further innovation.").

22. *See, e.g.*, Joel Makower, *Financing Our Cleantech Future*, GREENBIZ.COM (Jan. 28, 2010), http://www.greenbiz.com/blog/2010/01/18/financing-our-cleantech-future ("Deploying even one commercial-scale plant can require more capital than most people imagine. Consider BrightSource Energy, which builds and operates large-scale solar thermal plants, in which massive arrays of mirrors beam sunlight to a central tower, boiling water to create steam to run a generator. BrightSource (which happens to be funded by VantagePoint, along with Morgan Stanley, BP, Chevron, Google, and others) has contracts to build several of these plants, at $2 billion to $3 billion a pop. And then there are wind farms. Building one will set you back anywhere from $150 million to $1 billion or more. So, too, a biofuels refinery. Real money, as they say.").

23. *Id.*

24. *Id.*

25. *See, e.g.*, *SunPower Sells 250 MW California Valley Solar Ranch PV project to NRG*, SOLAR MAGAZINE (Oct. 4, 2011), *available at* http://www.solarserver.com/solar-magazine/solar-news/current/2011/kw40/sunpower-sells-250-mw-california-valley-solar-ranch-pv-project-to-nrg.html.

In the clean tech industry there are many small companies, and these clean tech start-ups would love to have the problem of funding a large project utilizing its scaled technology. For early-stage companies, especially those that are well before the point of making any sales, it can be very difficult to find the sources of the capital they need to get their businesses off the ground.[26] These companies typically have to explore a diverse array of public and private funding sources and solicit a wide variety of investors.[27] Thus, clean tech innovators, both large and small, depend upon capital investment for all stages of their business, from initial R&D to proof of concept, commercial scale-up, and bringing their products to market.

When investors consider providing capital in clean tech, or other industries, they want to know they will get a good return on investment ("ROI") and turn a sufficient profit to justify their capital outlay. While investors trying to gauge ROI will, of course, examine the whole business picture, including a wide array of individual metrics, one important factor is a company's ability to erect barriers to entry for potential competitors so the company can carve out a greater market share for itself. Patents provide some assurance in this regard by awarding periods of exclusive rights to an invention.[28]

B. THE IMPORTANCE OF GREEN PATENTS AS VEHICLES FOR IMPLEMENTATION OF CLEAN TECHNOLOGIES

In *The Business of Intellectual Property*, Christopher Arena and Eduardo Carreras stress that innovation is "broader than creativity and invention in that it includes not only the formulation of ideas, but the implementation of

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26. *See AVC Smart Startup Guide*, THE SMART STARTUP, http://www.antiventure capital.com/avcguide.html (last visited Feb. 22, 2012) ("What is the Venture Capital Catch-22™? Well, startups need venture capital to start, but venture capitalists and angel investors only fund companies which already have traction (i.e., sales).").

27. *See More Than Venture Capital Is Needed to Help Cleantech Startups Cross 'The Valley of Death'*, KNOWLEDGE@WHARTON, http://knowledge.wharton.upenn.edu/article.cfm?articleid=2842 (" 'You need more than venture capital to get to launch,' said panelist Bernard David, a serial entrepreneur and fellow at IGEL. 'To reach the commercial stage, you often need $100 million or more, so your choices for that level of funding become private equity firms, large companies that have enough cash on their balance sheets, or the public markets.' ").

28. *See* 35 U.S.C. § 154(a)(1) (2010) ("Every patent shall contain . . . a grant to the patentee, his heirs or assigns, of the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States, and, if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States, or importing into the United States, products made by that process, referring to the specification for the particulars thereof.").

those ideas as well."[29] Clean tech products and services may be developed through research and testing, but they cannot be implemented without manufacturing facilities to assemble them, project developers to build them out, and consumers to purchase and use them.

As mentioned in Section II.A, *supra*, barriers to entry in the clean tech industry can be high, particularly with respect to commercializing green technologies. Through green patents, clean tech companies can leverage their proprietary technology in a number of ways to successfully implement and deploy their technologies. A focus on licensing patented technology to others allows companies to skirt certain barriers to market entry such as building factories, purchasing equipment, and hiring employees that would otherwise exist in more traditional business models.

License agreements with large manufacturers can help startups get their products scaled and commercialized. Nanostellar, a Redwood City, California-based company which designs catalysts for reducing motor vehicle tailpipe emissions, used to focus on making the catalysts and shipping them to customers.[30] But in 2008, the company shifted its business model from making and supplying chemicals to licensing its intellectual property to others, including large chemical manufacturers.[31] The company believed this change in strategy was necessary to enter the automotive market and serve its target customers.[32] Typically, automakers need large quantities of materials and long-lasting supply contracts.[33] Nanostellar concluded that developing and relying on its own chemical manufacturing capability would have created too much uncertainty in the catalyst supply chain, and the risk would have been too great for its customers.[34] So the company made the shift to licensing its technology.[35]

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29. *See* Arena & Carreras, *supra* note 5, at 59.

30. *See* Michael Kanellos, *Will Greentech Startups Shift From Products to Patents*, GREENTECH MEDIA (Jan. 16, 2009), http://www.greentechmedia.mobi/articles/read/will-greentech-startups-shift-from-products-to-patents-5541/.

31. *Id.* ("This summer, however, Nanostellar shifted from making chemicals to licensing its intellectual property to large chemical manufacturers, said CEO Pankaj Dhingra.").

32. *Id.* ("The shift largely came about because of the realities of the automotive market place.").

33. *Id.* ("Automakers need large quantities of almost all of the materials they consume. They also generally like their supply contracts to last for years.").

34. *See id.* (" 'We are a startup. What if we have a fire in the factory? A whole manufacturing line of luxury cars is stopped," [CEO Pankaj Dhingra] said. 'They don't like that.' ").

35. *See id.*

Nanostellar protects its technology through a portfolio of over ten U.S. patents and several pending applications. The patent portfolio covers the company's proprietary catalyst synthesis methods[36] as well as certain automotive catalyst products created by those processes.[37] Since making the shift to licensing its technology, at least one large automaker has signed a contract to buy catalysts made by a Nanostellar licensee.[38]

Another successful solar startup, Innovalight,[39] shifted its focus from an all-manufacturing plan to a partial licensing business model. Once on a path to become a solar cell and solar panel manufacturer, in 2008 Innovalight changed course to produce photovoltaic ink.[40] The company revised its plan to sell the ink and generate additional revenue by licensing its materials and production process to solar cell manufacturers.[41] This reduced both the cost of initial market entry, because the company did not have to build and operate a factory, and the cost of staying in business by obviating the need to compete on solar cell or module price.[42]

According to a company brochure, Innovalight's silicon ink enables production of mono-crystalline solar cells that have efficiencies of more than nineteen percent.[43] The "selective emitter" platform essentially comprises

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36. *See, e.g.*, U.S. Patent No. 7,482,163 (filed Feb. 18, 2005); U.S. Patent No. 7,430,322 (filed June 27, 2005).

37. *See, e.g.*, U.S. Patent No. 7,517, 826 (filed Nov. 20, 2007); U.S. Patent No. 7,709,414 (filed Jan. 17, 2007); U.S. Patent No. 7,521,392 (filed Feb. 18, 2005).

38. *See* Kanellos, *supra* note 30 ("So far, one large European car manufacturer has signed on to adopt Nanostellar-created catalysts made by someone else.").

39. Innovalight is now owned by DuPont. *See* Michael Kanellos, *DuPont Snaps Up Innovalight*, GREENTECH MEDIA (Jul. 25, 2011), http://www.greentechmedia.com/articles/read/dupont-snaps-up-innovalight/ (noting that Innovalight is "a startup that found success after switching business models").

40. Eric Wesoff, *Innovalight Tops Up With $18 Million For Solar Inks*, GREENTECH MEDIA (Jan. 6, 2010), http://www.greentechmedia.com/articles/read/innovalight-tops-up-with-18-million-for-silicon-solar-inks1/ ("At one point in the company's history, Innovalight was on the (expensive) path to be a solar cell and solar panel manufacturer. But in late 2008 they changed their business plan to become a manufacturer of the photovoltaic ink . . . .").

41. *Id.* (Innovalight changed its plan to "generating revenue from sales of the ink and licensing income from the incorporation of the process into manufacturing lines").

42. Michael Kanellos, *Innovalight Signs with Yingli for Second Chinese Solar Deal*, GREENTECH MEDIA (Jul. 26, 2010), http://www.greentechmedia.com/articles/read/innovalight-signs-with-yingli-for-second-chinese-solar-deal/ ("While Innovalight could produce its own solar cells, the company has largely shifted to producing solar inks for others and collaborating on research. The shift obviates the need to raise the capital to build solar factories, and it insulates Innovalight to some degree from the brutal price competition in solar.").

43. *See* DuPont, DuPont Innovalight Selective Emitter Platform: Raising the Efficiency of Solar Cells, *available at* http://www2.dupont.com/Photovoltaics/en_US/assets/downloads/pdf/Innovalight_brochure.pdf ("The DuPont Innovalight selective emitter

adding a silicon ink screen-printing step to conventional solar cell manufacturing process.[44] The properties of the silicon ink powders are optimized to achieve high conversion efficiency of the resulting solar cells.[45] Incorporating Innovalight's silicon ink can mean an efficiency boost of one to two percentage points "in a market where a tenth of a percentage point efficiency increase often warrants a press release."[46]

Innovalight's patent portfolio supports the company's licensing business model by providing a tool it can sell to generate a steady revenue stream.[47] Those licensees are increasing in number and driving implementation of Innovalight's technology. Several major Chinese solar manufacturers have teamed with Innovalight to use its solar ink to boost efficiencies in their products.[48]

Technology transfer and licensing arrangements with the right partners can provide access to established distribution and customer networks. For Cyclone Power Technologies ("Cyclone"), a designer of heat regenerative combustion engines, patent licensing facilitates partnerships for both manufacturing purposes and access to distribution channels.[49] Awarded

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platform is a patented silicon ink based solution for quick transition to >19% efficient monocrystalline solar cells.").

44. *See id.* ("A silicon ink screen printing step is added after texturization in a mono crystalline cell manufacturing line.").

45. *See id.* ("The result of over 100 engineering-years of ink development, DuPont Innovalight has optimized silicon ink powder and formulation properties to maximize the conversion efficiency of the DuPont Innovalight selective emitter platform.").

46. *See* Wesoff, *supra* note 40 ("Innovalight has developed a silicon ink . . . which [CEO Conrad] Burke claims can boost the efficiencies of crystalline silicon wafers by more than 1%. Burke hinted it could be up to 2%. In a market where a tenth of a percentage point efficiency increase often warrants a press release, a 1% increase is significant.").

47. *See Innovalight Awarded Key Patent by U.S. Patent & Trademark Office for Solar Cells Manufactured with Silicon Ink*, GREENTECH MEDIA (Feb. 16, 2010), http://www.greentechmedia.com/industry/read/innovalight-awarded-key-patent-by-u.s.-patent-trademark-offic-12178/ (quoting Alex Sousa, Innovalight's Intellectual Property Counsel, on the importance of his company's intellectual property, which gives Innovalight "the ability to immediately provide our licensees with a substantial competitive advantage in the marketplace.").

48. *See, e.g.*, Eric Wesoff, *JA Solar Relying on Innovalight to Improve Efficiency to 18.9%*, GREENTECH MEDIA (June 17, 2010), http://www.greentechmedia.com/articles/read/ja-solar-relying-on-innovalight-to-improve-efficiency-to-18.9/ ("The process that incorporated the Innovalight ink is the sonorously named SECIUM process and has allowed JA Solar to announce R&D efficiency results of greater than 18.5 percent at the cell level."); *supra* note 42 ("Innovalight has signed a research and production deal with Yingli Green Energy that, ideally, will lead to a marriage of low-cost Chinese manufacturing and U.S. technological expertise.").

49. *See Ingenius Engines to Generate Electricity From Waste Oil,* NOIRA NEWSWIRE, *available at* http://www.machinerylubrication.com/Read/2255/ingenius-engines-to-generate

Popular Science Magazine's Invention of the Year for 2008,[50] the Cyclone Engine is an external combustion engine that achieves high thermal efficiencies through a heat-regenerative process.[51] The patent portfolio protecting Cyclone's technology covers various aspects of its engine.[52] According to a company press release, Cyclone's patent portfolio provides protection for the Cyclone Engine and its key systems.[53] It also represents a technology package that can be licensed to manufacturers and distributors.

A 2009 license agreement with Phoenix Power Group ("Phoenix") links Cyclone's engines with automotive oil change and service facilities built by a Phoenix affiliate throughout the United States.[54] Under the terms of the license agreement, Phoenix enjoys exclusive North American and Australian rights to develop and sell power generator systems using Cyclone's

-electricity-from-waste-oil ("The license provides Phoenix Power with exclusive North American and Australian rights to develop and sell power generator systems utilizing Cyclone's award-winning external combustion engines").

50. Press Release, Cyclone Power Technologies, Cyclone Power Technologies' Green Engine Named Popular Science Invention of the Year (May 22, 2008), *available at* http://www.cyclonepower.com/press/5-22-08.pdf ("Cyclone Power Technologies, Inc. announced to today that *Popular Science* magazine named the clean, green Cyclone Engine as a 2008 Invention of the Year.") (internal citations omitted).

51. *See Cyclone Power Technologies Receives Fourth U.S. Patent for its Green Engine*, BUSINESS WIRE (Apr. 27, 2010), http://www.businesswire.com/portal/site/home/permalink/?ndmViewId=news_view&newsId=20100427006502&newsLang=en ("the patented Cyclone Engine is a modern day steam engine, ingeniously designed to achieve high thermal efficiencies through a compact heat-regenerative process").

52. *See Cyclone Power Technologies Receives Fifth U.S. Patent for Its Green Engine*, BUSINESS WIRE (June 8, 2010), http://www.businesswire.com/news/home/20100608005450/en/Cyclone-Power-Technologies-Receives-U.S.-Patent-Green ("The Company now has patents on each of the three major component systems of the engine—one on its combustion chamber, two on its mechanical operations (comprised of pistons, valves, bearings and other sub-components), and now one on the condensing system. The Company has an overall patent on the total Cyclone Engine system in the United States and several other nations throughout the world.").

53. *See id.* ("The Company now has patents on each of the three major component systems of the engine—one on its combustion chamber, two on its mechanical operations (comprised of pistons, valves, bearings and other sub-components), and now one on the condensing system. The Company has an overall patent on the total Cyclone Engine system in the United States and several other nations throughout the world.").

54. *See Phoenix Power Group Commences Project to Generate Clean Electricity from Waste Oil*, BUSINESS WIRE (Sep. 17, 2009), http://www.businesswire.com/portal/site/home/permalink/?ndmViewId=news_view&newsId=20090917006310&newsLang=en ("[Phoenix Power] is an affiliate of Atlantic Systems Group of Harrisonburg, VA, which is in the business of designing and building automotive oil change and service facilities throughout the United States").

combustion engines.[55] Cyclone will rely on Phoenix's ability to efficiently market and sell engines.[56] The ability of Cyclone to license its patent portfolio is critical to the company's revenue, and, in the case of the Phoenix deal, is important to get its products developed and commercialized.[57]

C. THE IMPORTANCE OF GREEN PATENTS IN INTERNATIONAL TRANSFER AND DIFFUSION OF CLEAN TECHNOLOGIES: EMERGING MARKET SUCCESS STORIES

The market for green technologies is increasingly a global one, and international technology transfer is an area of focus for policymakers[58] and commentators.[59] Implementation of an international technology transfer mechanism has been a central tenet of the United Nations Framework Convention on Climate Change, both in the existing treaty and the recent diplomatic meetings to negotiate a new treaty.[60] Economic and legal scholars have argued for various policies—some involving intellectual property and others non-IP-related—to foster transfer of green technologies from developed countries to developing countries.[61]

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55. *See supra* note 49 ("The license provides Phoenix Power with exclusive North American and Australian rights to develop and sell power generator systems utilizing Cyclone's award-winning external combustion engines, which will run on waste oil fuels such as used motor oil from cars, trucks and busses.").

56. *See id.* (quoting Cyclone's CEO, Harry Schoell, on Phoenix's "proven track record of success in building companies and bringing products and services to market").

57. *See* Press Release, Cyclone Power Technologies, Cyclone Power Technologies to Design Waste Energy Generator for Phoenix Power Group (Jan. 13, 2010), *available at* www.cyclonepower.com/press/01-13-10.pdf ("Cyclone Power Technologies Inc. has received a work order from Phoenix Power Group LLC (PPG) to develop a prototype electric generator system that will be powered by Cyclone's heat-regenerative, external combustion engine running on waste oil. The new agreement expands Cyclone's responsibilities with respect to the development of PPG's waste energy generator systems and provides additional revenue to Cyclone over the next few months.").

58. *See* United Nations Framework Convention on Climate Change Treaty art. 4.5, May 9, 1992, S. Treaty Doc No. 102-38, 1771 U.N.T.S. 107, *available at* http://unfccc.int/resource/docs/convkp/conveng.pdf [hereinafter UNFCCC Treaty] ("Parties . . . shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties . . . .").

59. *See, e.g.*, Derclaye, *supra* note 18; Hall & Helmers, *supra* note 18; Wong, *supra* note 1.

60. *See* UNFCCC Treaty, *supra* note 58; *see also* UNFCCC, *Bali Action Plan*, 1, 1(d), 1(d)(i)–(ii), Decision -/CP.13 (Dec. 2007), *available at* http://unfccc.int/files/meetings/cop_13/application/pdf/cp_bali_action.pdf (stating that the Parties were to consider "[w]ays to accelerate deployment, diffusion and transfer of affordable environmentally sound technologies").

61. *See, e.g.*, Hall & Helmers, *supra* note 18, at 510–12 (advocating a combination of policy interventions such as a carbon tax and R&D incentives such as subsidies and tax

The Author has previously documented some of the large-scale deployments of clean technologies in the context of international business transactions in which technology transfer forms the backbone of the deals.[62] Clean tech companies both large and small are partnering with firms in developing countries to commercialize renewable energy generation equipment such as wind turbines and solar concentrators, lay critical infrastructure such as electric charging stations, and retrofit emissions reduction technologies on existing fossil fuel-fired power plants.[63]

Patent rights are often critical to these international transactions. In at least some deals, the developing country partner enjoys some form of exclusivity in its home market in exchange for contributing capital, labor, or some combination thereof.

In what was the biggest solar thermal deal ever when announced in January 2010, California solar thermal startup eSolar and its Chinese partner Penglai Electric ("Penglai") entered into an agreement to build at least two gigawatts of solar thermal power plants in China.[64] The deal was structured as a master licensing agreement between eSolar and the Chinese electrical power equipment manufacturer.[65] Penglai would be the exclusive licensee in China of eSolar's modular, scalable solar thermal technology, which includes several patents and pending patent applications relating to concentrating solar power equipment and supporting software.[66] Penglai would develop the power plants over the course of the next decade, and China Huadian Engineering Company would lead the construction process.[67] The plants, to be co-located

credits to encourage climate change-related technology development and transfer from developed to developing countries); Derclaye, *supra* note 18, at 659–69 (proposing patent pools, free access to publicly-funded technology, enforcement of existing treaties, and a green economic index to foster transfer of clean technologies for climate change mitigation).

62. *See* Eric L. Lane, *Clean Tech Reality Check: Nine International Green Technology Transfer Deals Unhindered by Intellectual Property Rights*, 26 SANTA CLARA COMPUTER & HIGH TECH. L.J. 533, 543 (2010) ("The reality is that clean technologies are being deployed in the context of international business transactions by companies both large and small with partners in developing countries, especially in some of those countries that have been the most vocal about weakening or eliminating IP rights to facilitate tech transfer.").

63. *See id.* at 544–48, 552–53 (describing eSolar's deals to build solar thermal power plants in China and India, GE's plan to install coal gasification technology in China, and ECOtality's deal to distribute EV charging systems in China).

64. *See* Press Release, eSolar, eSolar Partners with Penglai on Landmark Solar Thermal Agreement for China (Jan. 8, 2010), *available at* http://www.esolar.com/news/press/2010_01_08.

65. *See id.*

66. *See id.*

67. *See id.*

with biomass electricity generation facilities, are projected to reduce carbon dioxide emissions by fifteen million tons annually.[68]

Similarly, in March 2009 eSolar announced an agreement with Indian developer ACME Group ("ACME") to build up to 1,000 megawatts (one gigawatt) of solar thermal power plants.[69] ACME will build, own, and operate plants in India using eSolar's technology and will work with other companies to build additional plants using the technology.[70] As part of the deal, ACME will make a $30 million equity investment in eSolar.[71] In its press release regarding the ACME deal, eSolar announced "an exclusive licensing agreement" that named ACME master licensee of eSolar's technology in India.[72]

Thus, it seems likely that eSolar's patent rights in China and India helped the company find willing partners in those countries. Indeed, it is hard to imagine Penglai and ACME investing in such large-scale projects without the exclusivity in their home markets guaranteed by the master licensing agreements. Without exclusive, and later enforceable, rights to the technology protected by eSolar's portfolio of international patent applications, Penglai and ACME would have no protection against competitors in their home markets copying eSolar's innovative solar thermal power plant architecture.

In addition, if eSolar had not made binding commitments through exclusive licenses, it could have entered into agreements with other developers in China and India and Penglai, and ACME might have faced competitors using the same technology with eSolar's blessing. Such risks easily could have undermined those deals. Thus, eSolar's success in finding willing partners in India and China to implement its renewable energy technology may have been driven, at least in part, by patent rights.

In a major deal involving emissions reduction technologies, General Electric ("GE") entered into a memorandum of understanding with Chinese coal and energy company Shenhua Group Corporation ("Shenhua") to deploy commercial scale power plants with GE's coal gasification

68. *See id.*

69. *See* Press Release, eSolar, eSolar Signs Exclusive License with ACME to Construct 1 Gigawatt of Solar Power Plants in India (Mar. 3, 2009), *available at* http://www.esolar.com/news/press/2009_03_03.

70. *See id.*

71. *See id.*

72. *Id.* (eSolar "names ACME as a master licensee of its modular, scalable technology and grants the company the exclusive right to represent eSolar in India developing its own utility-scale solar thermal projects and working with other companies that want to build solar thermal power plants in India using eSolar technology").

technology.[73] The two companies formed a joint venture to combine GE's expertise in gasification technologies, particularly its integrated gasification combined cycle solutions, with Shenhua's expertise in building and operating coal-fired power plants and coal gasification facilities.[74] With coal plants currently contributing about twenty-five percent of the world's total greenhouse gas emissions,[75] development and deployment of carbon capture technologies will be critical to curbing global warming.

According to Thaddeus Burns, an intellectual property lawyer at GE who focuses on international trade, intellectual property rights are important to GE's partners in developing countries and emerging markets.[76] In the context of joint ventures such as the deal with Shenhua or other technology transfer agreements in which "customers who are either putting resources on the table to help develop that technology or paying [GE] for a solution to a problem, [intellectual property rights] help[] make sure that they enjoy the full benefits of that business deal."[77] According to Burns, the intellectual property system "rationalizes the diffusion" of its technology by protecting GE from its competitors.[78]

Thus, patents play an important role not only as incentives to invest in clean tech R&D, but also as a powerful vehicle for the other critical piece of innovation—diffusion and deployment of green technologies.

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73. *See id.* ("GE and Shenhua Group Corporation today announced that they have agreed to a framework for an industrial coal gasification joint venture which would combine GE's expertise in gasification and cleaner power generation technologies with Shenhua's expertise in building and operating coal gasification and coal-fired power generation facilities, to advance "cleaner coal" technology solutions in China").

74. *See id.* ("The memorandum of understanding . . . would result in a joint venture company, in which GE and Shenhua would execute a strategic vision for expanding to improve cost and performance of commercial scale gasification and integrated gasification combined cycle (IGCC) solutions").

75. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, FOURTH ASSESSMENT REPORT, CLIMATE CHANGE 2007: SYNTHESIS REPORT, SUMMARY FOR POLICYMAKERS, WORKING GROUP III § 4.3 tbl.4.2 (2007), *available at* http://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch4-ens4-3.html.

76. Kaitlin Mara, *Are Patent Exceptions Necessary For Climate Change Technology? Defining WIPO's Role*, INTELLECTUAL PROPERTY WATCH (March 26, 2009, 11:12 AM), http://www.ip-watch.org/weblog/2009/03/26/are-patent-exceptions-necessary-for-climate-change-technology-defining-wipo%E2%80%99s-role/.

77. *See* COP15 Side Event: The Effective Use of ICTs and the IP System for Mitigating Climate Change (Dec. 10, 2009), webcast *available at* http://www1.cop15.meta-fusion.com/kongresse/cop15/templ/play.php?id_kongressmain=1&theme=unfccc&id_kongresssession=2409.

78. *See id.* ("In the end, it's not our customers in developed or developing countries . . . that we're trying to use the IP to protect our technology from, it's the competitors, it's companies like Siemens and Philips.").

III. THE ADVENT OF GREEN PATENT FAST TRACK PROGRAMS

Recognizing the importance of green patents, several national intellectual property offices have initiated acceleration examination programs for patent applications directed to green technologies. This Part introduces these programs by providing an overview of which intellectual property offices offer them and how the programs work in each office. This Part also discusses how providing quicker indications of patentability and expediting patent grants helps clean tech applicants and practitioners.

A. OVERVIEW OF THE GREEN PATENT FAST TRACK PROGRAMS

A number of countries have concluded that expedited examination of patent applications relating to green technologies encourages green innovation. Increasingly common around the world, these programs are being or have been established by national intellectual property offices, including those of the United States, the United Kingdom, Canada, Israel, Australia, Japan and Korea.[79] Though each country's intellectual property office administers its program differently, the basic framework is the same: patent applications directed to environmentally beneficial technologies receive expedited processing and examination to substantially reduce the time it takes to obtain a granted patent. In comparison, other categories of patent applications are examined in the order in which they are received.

The fast track initiatives flow from the premise that patents foster innovation and that increasing the rate of green patents granted will spur development and deployment of green technologies. U.S. Commerce Secretary Gary Locke summed up this view in his remarks on the launch of the U.S. Patent and Trademark Office's ("USPTO") Green Technology Pilot Program: "By ensuring that many new products will receive patent protection

79. At least one other international expedited examination program has been implemented by many national intellectual property offices. The Patent Prosecution Highway ("PPH") allows an applicant that receives allowed claims or an issued patent in the intellectual property office in which the patent application was first filed to accelerate examination of a corresponding patent application in a second intellectual property office where the application is subsequently filed. *See* United States Patent and Trademark Office, *Patent Prosecution Highway (PPH)—Fast Track Examination of Applications*, http://www.uspto.gov/patents/init_events/pph/index.jsp (last visited Sep. 15, 2012) ("Under the Patent Prosecution Highway (PPH), an applicant receiving a ruling from the Office of First Filing (OFF) that at least one claim in an application filed in the OFF is patentable may request that the Office of Second Filing (OSF) fast track the examination of corresponding claims in corresponding applications filed in the OSF."). However, absent another fast tracking mechanism, the first-filed application is not accelerated under the PPH; only the second-filed application can be accelerated.

more quickly, we can encourage our brightest innovators to invest needed resources in developing new technologies and help bring those technologies to market more quickly."[80]

1. The United Kingdom

The first office to institute such a program was the UK Intellectual Property Office ("UKIPO"), which launched its "Green Channel" initiative in May of 2009 to give priority to patent applications directed to technologies having environmental benefits.[81] The accelerated procedure is available to any applicant who makes a "reasonable assertion that the invention in the patent application" has an "environmental benefit."[82] The UKIPO gives deference to the applicant's assertion; it will not investigate the assertion, though it "will refuse requests" that "are clearly unfounded."[83] Applicants can choose which aspects of the application process they want to accelerate, including "search, examination, combined search and examination, and/or publication."[84] Instead of the current average of two to three years for an ordinary patent application to get through the UKIPO, an application can be granted in just nine months under this scheme.[85]

2. Korea

In the fall of 2009, the Korean Intellectual Property Office ("KIPO") announced that green patent applications were eligible for its "superspeed" examination program.[86] Launched on October 1, 2009, KIPO's special examination procedure applies to patent applications directed to several categories of technologies relating to the environment or "low-carbon green

80. *See* Press Release, UK Intellectual Property Office, UK 'Green' inventions to Get Fast-Tracked through Patent System (May 12, 2009), *available at* http://www.ipo.gov.uk/about/press/press-release/press-release-2009/press-release-20090512.htm ("David Lammy, Minister for Intellectual Property, will today launch an initiative which will enable inventions with an environmental benefit to be given priority within the patent system.").

81. *Id.*

82. *Id.*

83. *Green Channel for Patent Applications*, UK INTELLECTUAL PROPERTY OFFICE, http://www.ipo.gov.uk/pro-types/pro-patent/p-law/p-accelerated/pro-p-green.htm (last visited Mar. 12, 2012).

84. *Id.*

85. *See supra* note 80 ("It could take only nine months to get a patent granted under this scheme, compared with the current average time of two-to-three years.").

86. Korean Intellectual Property News Release, Thanks to superspeed examination, green technology acquires patent in a month, *available at* http://www.kipo.go.kr/kpo/user.tdf?seq=1305&c=1003&a=user.english.board.BoardApp&board_id=kiponews&catmenu=ek20200 (Oct. 20, 2009).

growth."[87] The applicant must request that a prior art search be conducted by one of the three search agencies officially sanctioned by the KIPO.[88] According to the KIPO press release, the "superspeed" system cuts the already quick Korean timeline from application to patent grant from an average of eighteen months to a stunningly short period of less than one month, "the fastest examination period in the world."[89]

To qualify for "superspeed" examination, green patent applications must fall within certain enumerated technology categories that are automatically eligible or must receive either a specific green certification or funding from the Korean government.[90] The seven automatically eligible subject matter categories are:

> (1) noise and vibration prevention facilities or methods and sound proofing or dust proofing
>
> (2) water quality contamination prevention facilities or methods
>
> (3) air pollution prevention facilities or methods
>
> (4) waste disposal facilities or methods
>
> (5) facilities or methods of livestock excretions management, purification and disposal
>
> (6) recycling facilities or methods
>
> (7) sewage disposal facilities or methods.[91]

87. *See id.* ("To support the patent acquirement of green technologies researched & developed under the national strategy of low-carbon green growth, the Korean Intellectual Property Office (Commissioner: Jung-sik Koh) is planning to apply a superspeed examination system starting October 1. The superspeed examination system is subjected to green technologies that minimize the discharge of pollutants, as well as those which received funding or authentication for green growth.").

88. *See id.* ("Applicants can apply for the superspeed examination by requesting a prior arts search to an authenticated agency . . . and submitting the results of the search to KIPO.").

89. *Id.*

90. *See* Eric L. Lane, *Speed Bumps Emerge on KIPO Green Tech Fast Track*, GREEN PATENT BLOG (Oct. 23, 2011), http://www.greenpatentblog.com/2011/10/23/speed-bumps-emerge-on-kipo-green-tech-fast-track/ ("[a]n eighth category of technologies lists several subcategories which are eligible only if the invention has 'received financial support or certification from the government' "); *see also Super-Highway Patent Examination within 1 month implemented starting October 1, 2009*, HANYANG NEWSLETTER (Oct. 2009), *available at* http://hanyanglaw.com/eng/news/newsletter_preview.asp?curPage=1&ca=116 [hereinafter Hanyang Newsletter].

91. Hanyang Newsletter, *supra* note 90.

An eighth category of technologies lists several subcategories which are eligible only if the invention has "received financial support or certification from the government"[92] and includes many important green technologies:

> (8)(a) new renewable energy technology
>
> (8)(b) carbon reduction energy technology
>
> (8)(c) high powered water handling technology
>
> (8)(d) LED application technology
>
> (8)(e) green transportation system related technology
>
> (8)(f) green city related technology
>
> (8)(g) technology that economizes and efficiently uses energy and resources to minimize greenhouse gas and contaminated substances
>
> (8)(h) any technology belonging to one of (a) to (g) that fuses with another technology.[93]

3. *Japan*

The Japan Patent Office ("JPO") was the next to introduce a green patent fast track initiative. Launched on November 1, 2009, the JPO program provides accelerated examination for "Green Related Applications."[94] Eligible "Green Related Applications" are patent applications directed to inventions that promote energy conservation or reduce carbon dioxide emissions.[95] To be admitted to the program, the applicant must (1) submit a brief description of the invention explaining that the claimed invention reduces energy consumption or CO2 emissions, and (2) conduct a prior art search, disclose the prior art, and submit an explanation comparing the invention to the prior art.[96]

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92. *Id.*

93. *Id.*

94. Onda Techno Intl. Patent Attys., *The JPO implemented a pilot program for Green Accelerated Examination effective November 1, 2009*, http://www.ondatechno.com/English/ip/patent/report/20091130.html.

95. *See id.* (" 'Green Related Applications' means applications that relate to green inventions, i.e., inventions that promote energy conservation, reduce carbon dioxide emissions reductions, and so on").

96. *See* Press Release, Japan Patent Attorneys Association, Accelerated (Appeal) Examination for Green Technology Patent Applications (Mar. 7, 2010), *available at* http://www.jpaa.or.jp/english/whatsnew/green_technology_patent.

4. *The United States*

The USPTO launched a one-year pilot program to expedite green patent applications in December of 2009.[97] The Green Technology Pilot Program allowed applications relating to improving environmental quality, conserving energy, developing renewable energy resources, or reducing greenhouse gas emissions to be advanced out of turn for substantive examination.[98] Applicants who wished to participate in the program had to file a petition with the USPTO requesting participation and indicating that their patent application complied with the program requirements.[99] An application accepted into the Green Technology Pilot Program began examination immediately instead of languishing for what can be a two- to three-year wait before the ordinary course's examination process begins.

At its onset, the USPTO initiative was restricted in several ways. First, it was a temporary pilot program. The window of opportunity was nominally one year: the program launched on December 8, 2009, and petitions had to be filed before December 8, 2010.[100] Moreover, it was possible that applicants would not even enjoy the full one-year window because, from its start, only the first 3,000 petitions would be accepted into the program.[101] A third limitation was that only applications filed before the program launch date of December 8, 2009 that had not begun examination—i.e., had not received a first office action—were eligible.[102] In other words, newly filed

97. Press Release, U.S. Patent and Trademark Office, The U.S. Commerce Department's Patent and Trademark Office (USPTO) Will Pilot a Program to Accelerate the Examination of Certain Green Technology Patent Applications (Dec. 7, 2009), *available at* http://www.uspto.gov/news/pr/2009/09_33.jsp.

98. *See* Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. 64,666 (Dec. 8, 2009) ("Under the Green Technology Pilot Program, applications pertaining to environmental quality, energy conservation, development of renewable energy, or greenhouse gas emission reduction, will be advanced out of turn for examination without meeting all of the current requirements of the accelerated examination program . . . .").

99. *Id.* ("Applicant[s] may participate in the Green Technology Pilot Program by filing a petition to make special that meets all of the requirements set forth in this notice in a previously filed application.").

100. *Id.* ("The Green Technology Pilot Program will run for twelve months from its effective date. Therefore, petitions to make special under the Green Technology Pilot Program must be filed before December 8, 2010.").

101. *Id.* ("The USPTO will accept only the first 3,000 petitions to make special in previously filed new applications, provided that the petitions meet the requirements set forth in this notice.").

102. *See id.* at 64,667 ("(1) . . . The application must be previously filed before the publication date of this notice . . . . (6) The petition to make special must be filed at least one day prior to the date that a first Office action . . . appears in the Patent Application Information (PAIR) system.").

applications were not eligible for USPTO fast tracking. The subject matter analysis was also rather stringent and required that the patent application be classified in one of the technology classes and subclasses deemed by the USPTO to be eligible green technologies.[103] There was a cap on the number of claims in an application as well, though that could be met via a preliminary amendment at the time the petition for the program was filed.[104]

The basic eligibility requirements for the Green Technology Pilot Program, as initially launched, were as follows:

- the application is a non-reissue, non-provisional utility application filed before December 8, 2009 for which a first office action has not been issued;[105]
- the invention is classified in one of the specific technological classes approved as a "green technology" class;[106]
- the application has three or fewer independent claims, twenty or fewer total claims, and no multiple dependent claims (the applicant can file a preliminary amendment to bring the application in compliance with this requirement);[107]
- the application claims a single invention directed to environmental quality, conserving energy, developing renewable energy resources, or reducing greenhouse gas emissions;[108] and
- the applicant must request early publication of the application.[109]

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103. *See id.* ("(2) The application must be classified in one of the U.S. classifications listed in section VI of this notice at the time of examination.").

104. *See id.* ("(3) The application must contain three or fewer independent claims and twenty or fewer total claims. The application must not contain any multiple dependent claims. For an application that contains more than three independent claims or twenty total claims, applicants must file a preliminary amendment in compliance with 37 CFR 1.121 to cancel the excess claims and/or the multiple dependent claims at the time the petition to make special is filed.").

105. *Id.*

106. *Id.*

107. *Id.*

108. *See id.* ("(4) The claims must be directed to a single invention that materially enhances the quality of the environment, or that materially contributes to: (1) the discovery or development of renewable energy resources; (2) the more efficient utilization and conservation of energy resources; or (3) greenhouse gas emission reduction . . . .").

109. *See id.* ("(7) The petition to make special must be accompanied by a request for early publication in compliance with 37 CFR 1.219 and the publication fee set forth in 37 CFR 1.18(d).").

After initial reports indicated that the response to the program was "underwhelming," with well short of the 3,000 available slots filled,[110] the USPTO eliminated one of the more onerous requirements.[111] It turned out that the vast majority of green tech petitions filed were being denied, and the most common ground for denial was that the patent application was not in an eligible technology class and subclass. This was, at least in part, because the universe of eligible classes and subclasses represented only a subset of technology that is actually green.[112] To counteract this problem and broaden the eligibility requirements for the Green Technology Pilot Program, the USPTO eliminated the requirement that a patent application be classified in one of the specific technology classes and subclasses pre-approved for acceptance into the fast track program.[113] This improvement to the program allowed more green patent applications to be fast tracked. It also made the process easier and less expensive for applicants, obviating the need to creatively amend the claims to shoehorn the application into one of the eligible classes and subclasses.

In November 2010, when the GTPP Green Technology Pilot Program was approaching its conclusion, the USPTO announced that it would continue the program for another year.[114] The program schedule was

110. *See US-UK prioritization of Green Tech patents underwhelming*, PATENTS.COM (Jan. 27, 2010), http://www.patents.com/patentscommunity/blogs/pschein/my-blog/105/us-uk-prioritization-of-green-tech-patents-underwhelming ("We are now reading blog reports that the USPTO [green technology pilot] program 'has had an underwhelming response.' It has been reported that 'only a third of the 3000 positions (under the pilot program guidelines) available' were filled.").

111. *See* BC Upham, *Exclusive: Green Patent Program Widened Under New Rule Change*, TRIPLE PUNDIT (May 21, 2010), http://www.triplepundit.com/2010/05/exclusive-green-patent-program-widened-under-new-rule-change/ ("The United States Patent and Trademark Office published an important change to its Green Patent program this morning which should expand the number of patent applications that qualify for the program. The revision, which comes after industry complaints, removes a requirement that applications fall into certain technological classifications, such as solar cells or electric vehicles, in order to qualify for the program.").

112. *See* Elimination of Classification Requirement in the Green Technology Pilot Program, 75 Fed. Reg. 28,554 (May 21, 2010) ("The USPTO has determined that the classification requirement . . . was causing the denial of petitions for applications that are drawn to green technologies.").

113. *See id.* ("The USPTO is hereby eliminating the classification requirement for any petitions that are decided on or after the publication date of this notice. This will permit more applications to qualify for the program, thereby allowing more inventions related to green technologies to be advanced out of turn for examination and reviewed earlier.").

114. *See* Expansion and Extension of the Green Technology Pilot Program, 75 Fed. Reg. 69,049, 69,050 (Nov. 10, 2010) ("The program is also being extended until December 31, 2011.").

extended until December 31, 2011 or until 3,000 green patent applications were accepted into the program, whichever comes first.[115] In a welcome eligibility change, the USPTO also expanded the program to include green patent applications filed on or after December 8, 2009.[116] The effective date of these changes was November 10, 2010.[117] Thus, any U.S. green patent application that had not begun substantive examination, including newly filed applications, could petition for the USPTO fast tracking procedure.

With the subject matter eligibility change and the door open to new applications, the petition process became much smoother. First, applicants could be more confident that their technologies were eligible and their applications would be accepted into the program so long as they broadly related to environmental quality, energy conservation, development of renewable energy resources, or greenhouse gas emissions reduction. Second, whether an applicant wished to take advantage of the U.S. fast track program became a standard intake question for a clean tech patent practitioner at the start of the patent application process. Finally, the application process became more efficient as preparation of the program petition and a claim set conforming to the program rules could be rolled into the initial preparation and filing of a green technology patent application.

On December 15, 2011, the USPTO announced that the Green Technology Pilot Program would end in early 2012.[118] While the program was extended a second time to the earlier of March 31, 2012 or acceptance of 3,500 patent applications, the USPTO said the green patent fast track initiative "will soon draw to a close."[119] On February 27, 2012, the Green Technology Pilot Program reached its acceptance limit, and the USPTO announced that the program was closed.[120]

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115. *See id.* ("The Green Technology Pilot Program will run until December 31, 2011, except that the USPTO will accept only the first 3,000 grantable petitions to make special under the Green Technology Pilot Program in unexamined applications irrespective of the filing date of the application.").

116. *See id.* ("The USPTO is hereby expanding the eligibility for the pilot program to include application filed on or after December 8, 2009.").

117. *Id.*

118. *See* Press Release, USPTO Extends Deadline to Participate in Green Technology Pilot Program (Dec. 15, 2011), *available at* http://www.uspto.gov/news/pr/2011/11-72.jsp ("While both the Green Technology and Project Exchange programs will soon draw to a close, in the future all applicants may use the newly enacted Prioritized Examination (Track I) program, which is currently available to all technologies and categories of invention, to have their application accorded special status.").

119. *Id.*

120. *See* United State Patent and Trademark Office, *Green Technology Pilot Program – CLOSED*, http://www.uspto.gov/patents/init_events/green_tech.jsp ("The Office is **no**

5. Australia

Australia's intellectual property office, IP Australia, announced its fast tracking program in September of 2009.[121] IP Australia's accelerated procedure for environmentally friendly technologies allows green patent applications to jump to the front of the queue, reducing the examination process from over a year to between four and eight weeks.[122] To qualify for the program, an applicant must provide a statement that the patent application relates to green technology.[123]

6. Israel

Israel's fast track program launched in December 2009.[124] To qualify for the program, a patent application must be directed to an invention that falls into one of the Israel Patent Office's ("IPO") green classifications. To be properly classified, applicants must include with their patent applications a letter with a brief description of the invention and an explanation of its environmentally friendly features.[125] A patent application that qualifies for the "green classification code" will be prioritized and examined within three months.[126]

7. Canada

Most recently, the Canadian Intellectual Property Office ("CIPO") launched its expedited examination program for green patent applications.[127]

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longer accepting Petitions to Make Special Under the Green Technology Pilot Program or requests for reconsideration based solely on a defective original petition. The program will meet its limit based on petitions that were previously filed and are awaiting decision.") (emphasis in original).

121. Richard Marles MP Media Release, Fast Tracking Patents for Green Technology Solutions (Sep. 15, 2009), *available at* http://archive.innovation.gov.au/ministersarchive 2010/Marles/Pages/fasttrackingpatentsforgreentechnologysolutions.html.

122. *See id.*

123. *See* Kathryn Morris & Mark Roberts, *IP Australia Encourages Rapid Examination of "Green Patent Applications"*, DAVIES COLLISON CAVE (Sept. 16, 2009), http://www.davies.com.au/pub/detail/79/ip-australia-encourages-rapid-examination-of-green-patent-applications ("[T]he simple statement that a patent application related to a field of green technology will constitute a suitable reason in support of a request for expedited examination.").

124. Aviad Glickman, *State to Prioritize 'Green' Inventions*, YNET NEWS (Dec. 24, 2009), http://www.ynetnews.com/articles/0,7340,L-3819855,00.html.

125. *See* Susan E. Lifshitz, *IP-Israel Newsletter 2009 4th Quarter*, LIFSHITZ AND TREITEL/IP-ISRAEL GROUP, http://www.ip-israel.com/index-6.html.

126. *Id.*

127. CANADIAN INTELLECTUAL PROPERTY OFFICE, *Expedited Examination of Patent Applications Related to Green Technology* (Dec. 2, 2011), *available at* http://www.cipo.ic.gc.ca/eic/

To be accepted into the fast track program, the applicant must submit a declaration stating that its application relates to technology that could mitigate environmental impacts or conserve resources.[128] CIPO will not question or challenge an applicant's declaration.[129] For expedited applications, CIPO would provide an office action within two months of receipt of an applicant's request to enter the program.[130]

Another important jurisdiction for clean technologies, Brazil, announced that its National Institute of Industrial Property would start a green patent fast track program in June 2012.[131]

B. BENEFITS OF THE GREEN PATENT FAST TRACK PROGRAMS

There is much to commend in these expedited examination programs. Significantly, the fast track initiatives expand the green patent practitioner's tool kit and provide applicants with strategic flexibility. With high speed patenting procedures available in several different corners of the world, a patent attorney can suggest to clients a number of options for filing patent applications and obtaining quick results. These options provide the practitioner with greater flexibility to calibrate a global patent filing strategy to best suit the business needs of green tech clients. For example, a clean tech company active in both the United States and Europe that previously filed its patent applications in the United States first might now be better served by filing first in the United Kingdom, where it can obtain a patent in only nine months through the UKIPO fast track program. One can imagine that clean tech companies for which Asia is an important market might take a similar approach and file first in Korea to enjoy "superspeed" patent examination there.[132]

Viewed more broadly as climate change policy, the expedited processing of green patent applications could speed commercialization of green technologies and reduce their time to market by encouraging investment in clean tech companies. The fast examination results and rapid turnaround from application filing to patent grant—nine months in the United Kingdom

site/cipointernet-internetopic.nsf/eng/wr02462.html ("The Canadian Intellectual Property Office's (CIPO) initiative to expedite the examination of patent applications related to green technology came into force March 3, 2011.").

128. *Id.*

129. *See* CIPO, *Green Patents: Coming into effect—Qs and As* ("Will the Office question the declaration from the applicant? No. It is the applicant's responsibility to ensure the accuracy of their declaration").

130. *Id.*

131. *See* Robert Wulff, *Brazil to fast-track green patent applications*, GRIFFITH HACK CLEAN IP BLOG (Dec. 1, 2011), http://cleanip.com.au/?p=2960.

132. Korean Intellectual Property News Release, *supra* note 86.

and only one month in Korea—can provide the clean tech patentee with a very quick indication of patentability. This official stamp of approval by a national intellectual property office lends credibility to an invention and deposits a gloss of innovation on the patented technology.

More importantly, an issued patent provides reasonable assurance of exclusivity in the claimed invention, which can be critical for a clean tech startup trying to raise capital. As discussed in Section II.A, *supra*, in the clean tech industry commercial scale up is very capital intensive, securing funding is challenging, and clean tech companies are very dependent upon capital investment.[133] But a clean tech startup just beginning to build a patent portfolio may wait several years for a patent application to mature into a granted patent.

With the advent of the green patent fast track programs, the patent attorney now has an alternative to offer clean tech startups and their prospective investors. These initiatives can drastically reduce the time needed to determine the patentability of an invention. The clean tech startup that has only pending patent applications may improve its position in soliciting investors by turning its applications into granted patents as quickly as possible. By using the new fast track programs, this can be achieved in months instead of years, as is common in some national intellectual property offices. Thanks to expedited green patent application processing and examination, clean tech startups can quickly demonstrate to potential investors that they have exclusive rights to their technologies. This showing could provide some level of assurance of return on investment ("ROI") and encourage earlier capital investment in clean tech startups. The sooner the infusions of cash come, the quicker clean tech companies can bring their products to market.

IV. CRITICAL ANALYSIS OF THE GREEN PATENT FAST TRACK PROGRAMS

While the availability of fast track programs is potentially beneficial for green innovation, there are some significant problems with their operation that hamstring their effectiveness in practice. This Part conducts a two-part analysis to tease out and explain these problems.

133. *See* Meryl Epstein, Brady Berg & Tavis Morello, *Venture Debt, Another Tool for Cleantech*, INTERPV.NET, http://www.interpv.net/market/market_view.asp?idx=271&part_code=03&page=9 ("Because of their capital intensive nature and lengthy project timelines, cleantech companies may be more likely than other emerging technology companies to experience a funding gap.").

It is important, first, to examine all of the fast track programs as an interconnected network of initiatives that together represent a unified green patent policy offering. For green patent applicants and the practitioners who do their patent work, the starting point is accelerated examination as a whole, and the initial question is whether to take advantage of expedited examination at all. Therefore, the general benefits and drawbacks of the green patent fast track network need to be analyzed to understand and improve upon them.

Second, an intra-program analysis of the individual initiatives and their operation is necessary to gauge the effectiveness of different program rules. Only this micro-analysis will inform policymakers of which parameters work and which do not, so the programs can be improved or, better still, an optimized global program can be initiated. As discussed in Part V, ideally a harmonized green patent fast track system would be implemented based on the lessons learned from the critical analysis of each individual program.

A. THE COLLECTIVE CRITIQUE: A DISPARATE PATCHWORK OF PROGRAM REQUIREMENTS

When viewed as a whole, the most serious problem with the green patent fast track programs is the wide variability in their rules—both the eligibility requirements and the formal process requirements.[134] The eligibility requirements govern which patent applications are eligible to participate in the fast track programs. They comprise two parameters: the subject matter of the application and the status of the application, which may be unfiled or filed and pending. The more complex and important eligibility parameter is subject matter, which defines the categories of green technology eligible for accelerated examination. The formal process requirements are non-subject matter restrictions such as limitations on the number of claims permitted.

The subject matter eligibility requirements of the fast track programs range from very broad and deferential to the applicants' explanations of the invention to severely restrictive and tied to narrow, enumerated technology classes. On the permissive end of the spectrum is the UKIPO's Green Channel initiative, which merely requires a reasonable assertion that the patent application is directed to technology that has an environmental benefit.[135] The Green Channel does not use a classification system; any type of technology could qualify so long as the applicant's statement sufficiently

134. *See* discussion *infra* Section IV.B (presenting a critical analysis of the rules of each program).

135. *See* Press Release, UK Intellectual Property Office, *supra* note 80.

explains the environmentally beneficial aspect of the invention.[136] Similarly, IP Australia requires a brief explanation of the invention and how it benefits the environment,[137] and applicants to the CIPO must submit a declaration that the invention would help resolve or mitigate environmental impacts or conserve the environment and natural resources.[138]

The most restrictive subject matter eligibility rules are those put forth by KIPO. To qualify for the Korean "superspeed" examination program, a patent application will be automatically eligible if it falls within one of several enumerated technology classes, some of which are quite esoteric.[139] Alternatively, a patent application directed to an invention in the broad category of "new renewable energy technology" or other well-recognized fields such as emissions reduction, LEDs, and green transport, is eligible only if the invention has received funding or certification from the Korean government.[140]

The subject matter eligibility requirements of the IPO, the JPO, and the USPTO fall at different points along the middle of the spectrum between UKIPO and KIPO.

Unfortunately, like the national intellectual property offices themselves, the formal process requirements are all over the map. While IP Australia and the CIPO allow an unlimited number of claims and the CIPO is more liberal on the unity of invention requirement,[141] the USPTO pilot program has a limit of twenty claims (and within the twenty a limit of three independent claims) and imposes a telephonic election without traverse in response to a restriction requirement.[142] In their ordinary patent prosecution process,

136. *See Green Channel Frequently Asked Questions*, INTELLECTUAL PROP. OFFICE, http://www.ipo.gov.uk/pro-types/pro-patent/p-law/p-accelerated/pro-p-green/pro-p-green-faq.htm.

137. *See* Morris & Roberts, *supra* note 123.

138. *See* Press Release, Canadian Intellectual Property Office, *supra* note 127.

139. *See* Hanyang Newsletter, *supra* note 90.

140. *See id.*

141. *See* E-mail from Justin Blows, Griffith Hack, to Eric L. Lane (Jan. 2, 2012 4:01 PM) (on file with the author) (stating there are "no claim limitations" for the IP Australia green patent fast track application); e-mail from Marcelo Sarkis, Heenan Blaikie, to Eric L. Lane (Jan. 2, 2012 1:28 PM) (on file with the author) ("I am not aware of any limitations on the number of claims for a green fast track application with CIPO."); e-mail from Marcelo Sarkis, Heenan Blaikie, to Eric L. Lane (Jan. 2, 2012 1:39 PM) (on file with the author) ("In Canada, product and process claims are considered the same invention . . . .").

142. *See* Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. 64,666, 64,667 (Dec. 8, 2009), *available at* www.uspto.gov/patents/law/notices/74fr64666.pdf ("(3) The application must contain three or fewer independent claims and twenty or fewer total claims. The application must not contain any multiple dependent claims. For an application that contains more than three independent claims or twenty total

certain national intellectual property offices, the JPO being a prominent example, determine their examination fees on a per claim basis[143] and impose strict unity of invention requirements.[144] These requirements may impose a de facto limit on the number and scope of claims for many applicants by making larger claim sets cost prohibitive. Taken together, these disparate patent claims rules mean that a single set of claims typically will not be acceptable for green technology fast track programs in multiple jurisdictions.

With the current state of variability in green patent fast track program requirements, an applicant seeking to participate in several of the programs must undertake a time-consuming and costly series of steps. First, the putative applicant (and/or the patent practitioner) has to investigate each program's rules by gathering the necessary information and analyzing each set of requirements. Based on that understanding, the applicant must then determine if the invention meets the subject matter eligibility standards for each program. This is not a trivial task; as discussed earlier in this Section, the categories of eligible subject matter vary from broad and vague to narrow and esoteric. Moreover, in some instances this determination is an indefinite one in which the putative applicant or practitioner cannot say with certainty that an invention qualifies based on its subject matter. Rather, an invention may fall in a gray area of subject matter so the applicant must exercise some judgment to gauge the chance of acceptance of a patent application and weigh the risk of rejection.

Once an applicant has decided the patent application would satisfy the subject matter eligibility requirements of one or more accelerated examination programs (or has a good enough chance of satisfying the requirements to proceed), the applicant must then determine and prepare the requisite submissions for each program. For most programs, these will include a declaration, statement, or letter describing the invention and its environmental benefits. However, the content of such statements is likely to vary depending on the program. For the USPTO, the statement should

claims, applicants must file a preliminary amendment in compliance with 37 CFR 1.121 to cancel the excess claims and/or the multiple dependent claims at the time the petition to make special is filed.").

143. *See* Japan Patent Office, *Schedule of Fees*, *available at* http://www.jpo.go.jp/tetuzuki_e/ryoukin_e/ryokine.htm.

144. *See* Japan Patent Office, *Requirements of Unity of Invention*, *available at* http://www.jpo.go.jp/tetuzuki_e/t_tokkyo_e/Guidelines/1_2.pdf (explaining that the unity of invention requirement is based on multiple inventions' technical relationship, which means "two or more inventions must be linked so as to form a single inventive concept by having the same or corresponding special technical features among them . . . defining a contribution made by an invention over the prior art").

indicate into which of the four broad areas (environmental quality, conserving energy, developing renewable energy resources, or reducing greenhouse gas emissions) the claimed inventions falls.[145] Similarly, for the IPO fast track program, the statement needs to be drafted with the classification system in mind so the description of the invention puts the patent application in the best position for acceptance.[146] In other countries, such as the United Kingdom, Canada, and Australia, a relatively simple statement of the invention and its environmental benefits will suffice.[147]

Finally, the patent practitioner needs to make sure the claims of the patent application meet the requirements of each program. To do so may require that the practitioner draft several different claim sets. The claims, of course, are the most critical part of the patent application as they define the "metes and bounds" of the invention, i.e., the legal scope of protection.[148] As such, in this step the practitioner must craft claims that would provide broad enough protection for the applicant and also comport with the claims rules of each jurisdiction.

For the USPTO pilot program, the claim set must consist of twenty or fewer claims with three or fewer of the twenty being independent claims.[149] In addition, the claim set should be directed to a "single invention";[150] this means laser-like focus on one embodiment of the invention and may necessitate forgoing a subset of method claims. In the JPO, the applicant may want to limit the number of claims to keep costs under control and must carefully draft claims that adhere to the unity of invention requirement.[151]

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145. *See* Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. 64,666, 64,667 ("(4) The claims must be directed to a single invention that materially enhances the quality of the environment, or that materially contributes to: (1) the discovery or development of renewable energy resources; (2) the more efficient utilization and conservation of energy resources; or (3) greenhouse gas emission reduction . . . .").

146. *See* Lifshitz, *supra* note 125.

147. *See, e.g.*, *Green Channel for Patent Applications*, *supra* note 83.

148. *See, e.g.*, Lauren Maida, *Patent Claim Construction: It's Not a Pure Matter of Law, So Why Isn't the Federal Circuit Giving the District Courts the Deference They Deserve?*, 30 CARDOZO L. REV. 1773, 1776–77 ("Claims are concise statements which define what the patentee 'regards as his invention.' They are critical aspects of a patent because they define the metes and bounds of the patentee's exclusive rights. Claim construction is the process by which courts determine the scope and meaning of claims, in order to establish 'what constitutes the 'patented invention' that persons cannot make, use or sell without the authority of the patent owner.' ").

149. *See* Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. 64,666, 64,667 ("(3) The application must contain three or fewer independent claims and twenty or fewer total claims.").

150. *See id.* ("(4) The claims must be directed to a single invention . . . .").

151. *See* Japan Patent Office, *supra* note 145.

However, the relatively circumscribed claim sets for the USPTO and JPO fall short of the protection available in, for example, IP Australia and CIPO where the unity of invention rules are more lax.[152] An applicant applying for the fast track programs in these jurisdictions would likely want to draft longer claim sets with more independent claims, more embodiments, and both system and method claims to obtain optimal protection in Australia and Canada.

Because of the above-described disparities in subject matter eligibility and process, certain green technology inventions may be eligible in some countries and not others, different submission documents may need to be prepared, and claim sets often need to be re-drafted multiple times to ensure participation in multiple fast track programs. As a result, it can be costly and time consuming for applicants and their patent attorneys to select which green patent fast track programs to utilize, to determine whether and how to utilize such programs, and to actually participate in multiple programs.

As discussed in Part V, *infra*, harmonization of the disparate program requirements could be an effective solution to these collective problems. But before we can determine the optimal set of program parameters for a standardized international fast track initiative, we first need to conduct a microanalysis of the existing fast track initiatives at the individual program level.

B. INDIVIDUAL PROGRAM CRITIQUES

Each of the accelerated examination programs has its own iteration of program rules. The variations among the disparate sets of rules range from the nuanced—such as subtle gradations in how to explain the environmental benefits of an invention—to the substantial—like the very different approaches to identifying eligible technologies discussed in Sections III.A and IV.A, *supra*. Each set of rules has its strengths and weaknesses, which will be analyzed in this Section.

For this analysis (and for the determination of a harmonized program proposal) it is useful to focus separately on each of the two categories of program rules: the eligibility rules—particularly the subject matter eligibility

152. *See, e.g.*, Australia Working Group on Multiple Invention Disclosures and Complex Application: Response to Circular C. 6717 ("The application of [the unity of invention] standard in the national phase is however tempered by a recognition that the rationale for the unity requirement is substantially a matter of cost recovery and hence the practice is that: 'An objection that the claim or claims of a complete specification do not "relate to one invention only" should only be taken where there are claimed inventions which are clearly not so linked as to form a single inventive concept and it would require significant additional effort to examine all of the inventions.' ").

requirements—and the formal process requirements. Subject matter eligibility requirements are the protocols for determining which categories of technology qualify for the fast track programs. The formal process requirements are non-subject matter restrictions such as limitations on the number of claims permitted and other prosecution procedures.

1. The USPTO's Green Technology Pilot Program

After a rocky start, the USPTO's Green Technology Pilot Program ultimately achieved a relatively good balance in its program rules. The initial subject matter eligibility rule required that a patent application be classified in one of seventy-nine technology classes and one of a number of particular subclasses to qualify for the program.[153] This was unduly restrictive and was at least one significant factor contributing to the program's initially low participation levels.[154]

More particularly, many truly green inventions that convey environmental benefits were not eligible because they did not fall into one of the pre-selected classifications.[155] Some scholarly analysis of the USPTO Green Technology Pilot Program has criticized the initial classification scheme for this reason. In a new article, Professor Sarah Tran, a scholar who focuses on the use of administrative regulations to promote innovation and sustainable development, notes that "many environmentally-beneficial inventions had been ineligible for the program due to the classification requirement."[156] As one example of such exclusion, Tran cites U.S. Patent No. 7,644,828, directed to a bottle coupling system that reduces landfill waste.[157] Of greater concern, entire categories of technology were excluded from eligibility, such as inventions that conserve energy through temperature and humidity

153. Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. 64,666, 64,667 ("(2) The application must be classified in one of the U.S. classifications listed in section VI of this notice at the time of examination.").

154. *See* Kate Nuehring, *Our Generation's Sputnik Moment: Comparing the United States' Green Technology Pilot Program to Green Patent Programs Abroad*, 9 NW. J. TECH. & INTELL. PROP. 609, 612 ("about 184 requests were made per month after the elimination of the classification system, a 26% increase"); *see also* Jeffrey S. Whittle et al., *Qualifying Barriers Lower for "Green Technology" Patent Applications*, NAT'L L. REV., Jun. 16, 2010, *available at* http://www.natlawreview.com/article/qualifying-barriers-lower-green-technology-patent-applications.

155. *See* Elimination of Classification Requirement in the Green Technology Pilot Program, 75 Fed. Reg. 28,554 (May 21, 2010) ("The USPTO has determined that the classification requirement . . . was causing the denial of petitions for applications that are drawn to green technologies").

156. Sarah Tran, *Expediting Innovation*, 36 HARV. ENVTL. L. REV. 123, 145 (2012).

157. *Id.*

controls, classified in Class 236.[158] A petition filed by the present author on behalf of a client was initially denied, despite the patent application being directed to an energy storage process for use with intermittent renewable energy sources such as wind and solar.

Moreover, the onerous classification requirement created inefficiencies and increased the cost to the applicant to participate in the USPTO fast track program. For those applicants who tried to participate at the time, the ultra-specific classification requirement was the most common ground for denial of the fast track petitions.[159] Much work was involved in formulating a successful petition based on these classifications and typically included re-drafting claims to shoehorn them into one of the eligible classes and subclasses.[160] The patent practitioner had to conduct many steps in this process. First, he or she had to review the USPTO's list of acceptable technology classes and subclasses and select some classes and subclasses that seemed to match the invention at issue. Next, it was necessary to research the class and subclass definitions used by the USPTO to place a patent application in a particular class and subclass and extract the key words from those class and subclass definitions. The practitioner then had to analyze the patent application to find support for claim amendments that would include some of those key words and draft amendments to the claims to incorporate the key words. Finally, the practitioner would draft a preliminary amendment that included a list of the target classes or subclasses and a statement that the applicant believes the application is appropriately classified in one or more of those subclasses because of the particular features in the amended claims.[161]

Thus, a technology classification scheme like the one that initially comprised the USPTO fast track subject matter eligibility requirement is a serious drawback. First, some important green inventions that would convey environmental benefits are inevitably excluded from eligibility when specific, pre-selected classification requirements are imposed. Second, the definitions inherent in such classification schemes reduce efficiency and increase the

158. *Id.* ("the classification requirement originally excluded all applications drawn to systems and methods promoting energy conservation using temperature and humidity controls ('USPC 236')").

159. *See* Eric L. Lane, *It's Not Easy Being Green: Navigating the USPTO's Green Tech Pilot Program*, GREEN PATENT BLOG (Mar. 20, 2010), http://www.greenpatentblog.com/2010/03/20/its-not-easy-being-green-navigating-the-usptos-green-tech-pilot-program/ ("As I discovered first-hand, the most common ground for denial of a green tech petition is that the patent application is not in an eligible technology class and subclass").

160. *See id.* (describing the steps necessary "for getting a patent application that has not yet been assigned a class/subclass, or has been assigned an ineligible class/subclass, classified or reclassified, respectively, in an eligible technology class").

161. *Id.*

burden on the applicant because the patent practitioner must tailor the submissions to meet the definitional requirements.

As discussed in Section III.A.4, *supra*, the USPTO corrected this problem by breaking the tie to the enumerated technology classes and subclasses and instituting a new classification scheme.[162] With the classification requirement eliminated, the pre-existing program rule describing the nature of an eligible patent application became the operative subject matter eligibility requirement for patent applications pertaining to environmental quality, energy conservation, development of renewable energy resources, or greenhouse gas emissions reduction. Accordingly, more green technologies became eligible, and applicants had a higher level of assurance that their patent applications would be accepted into the program.

While liberalizing the subject matter eligibility requirement did indeed open the USPTO program to previously excluded green technologies,[163] some inefficiencies in implementation remained. Even under the more liberal standard, the USPTO initially rejected a petition filed by the author on behalf of a client for a patent application directed to solar thermal technology. In a telephone call with the USPTO, the Supervisory Program Examiner ("SPE") who conducted the review of the petition revealed the problem was a rather tortured reading of the phrase "development of renewable energy resources." Specifically, the SPE indicated that, although independent claim 1 of the subject patent application recited a solar reflector apparatus, the apparatus failed to actually generate energy from the concentrated sunlight. On the telephone and in a request for reconsideration of the petition, the author pointed out that a later dependent claim added the limitation of a generator to produce electricity from the solar radiation. Although the petition was subsequently granted, this account points to the continuing problems with implementation of a subject matter eligibility scheme tied to enumerated green technology definitions.

Other eligibility parameters initially utilized by the USPTO's green patent fast track program have been the subject of some recent scholarly articles.[164] One of the drawbacks of the program was that it was initially limited to patent applications that had already been filed as of the program launch date

162. *See* discussion *supra* Part III.

163. Nuehring, *supra* note 154, at 612 ("about 184 requests were made per month after the elimination of the classification system, a 26% increase"); Tran, *supra* note 156, at 14 ("The PTO eliminated the classification restriction on May 21, 2010. This revision opened up the program to all viable 'green technologies.' ").

164. *See* Tran, *supra* note 156, at 149–54 (discussing the program's barriers to participation and "laundry list of restrictions"); *see also* Nuehring, *supra* note 154, at 615–18 (describing the temporary and permanent disadvantages of the program).

of December 8, 2009.[165] According to an article by Kate Nuehring, the restriction to pending applications "provided no incentive for recalcitrant green technology inventors to file a patent application."[166] Empirical data discussed by Nuehring suggests that this restriction was a significant factor in limiting the number of petitions to the USPTO program.[167] As with the initial classification scheme, the USPTO remedied this problem by eliminating the requirement that a patent application must have been filed as of the program launch date to be eligible for accelerated examination. However, it is important to note that a pendency requirement foreclosing participation by newly-filed patent applications is a serious flaw to be avoided as it severely limits the universe of eligible patent applications.

A pair of process limitations sometimes posited to create an additional burden on applicants are the cap on the permissible number of claims and the requirement to elect a single invention "without traverse."[168] As discussed in Section III.A.4, *supra*, to be accepted into the USPTO Green Technology Pilot Program a patent application must contain three or fewer independent claims, no more than twenty total claims, and no multiple dependent claims.[169] The application must also be directed to a single invention; if the patent examiner finds the claims recite multiple inventions the applicant cannot dispute the finding and must elect (typically by telephone) one invention for examination.[170] Wong has called for removal of the claims restrictions,[171] and it is true that the applicant has to draft claims in compliance with these requirements and may need to conduct a strategic analysis to elect a subset of claims for examination. However, these tasks are not inherently problematic.[172] Rather, they may create an undue burden

165. *See* discussion *supra* Part III.

166. Nuehring, *supra* note 154, at 618.

167. *See id.* at 612–13 ("As a result [of the announcement that the USPTO would extend the program deadline and open eligibility to applications filed on or after December 8, 2009], the number of requests to have applications included in the program increased dramatically . . . . [T]he number of requests per month increased by approximately 53% after the November 10, 2010 announcement").

168. *See* Tran, *supra* note 156, at 150 (listing the requirement of a telephonic election without traverse among the "laundry list of restrictions"); *see also* Nuehring, *supra* note 154, at 615 (describing same as a permanent disadvantage of the program).

169. *See* discussion *supra* Part III.

170. *See id.*

171. *See* Wong, *supra* note 1, at 251 ("[T]he claim restrictions must be removed so that all eligible applications can participate regardless of the number of claims . . . .").

172. In fact, as discussed in Section V.D, *infra*, such reasonable process restrictions as a single invention requirement and a cap on number and type of claims could be beneficial for maintaining the speed and efficiency of accelerated examination programs.

should the applicant apply to multiple fast track programs.[173] As such, where these claims-based process requirements do create a burden on an applicant, it is a symptom of the collective disparity problems of the entire fast track network described in Section IV.A.

An obvious process problem is that the USPTO program was temporary, and, as discussed in Section III.A.4, closed on February 27, 2012.[174] Though extended twice, it was, from the start, a "pilot" program, and the USPTO never expressed any intention to make it permanent. As launched, the program was to expire at the earlier of one year from the start date or upon acceptance of 3,000 petitions.[175] The USPTO subsequently extended the program for another year to December 31, 2011 or until 3,000 green patent applications were accepted into the program.[176] Despite another recent extension—to the earlier of March 31, 2012 or 3,500 accepted petitions—the USPTO's pilot program will soon come to an end.[177]

Beyond the obvious participation problem its termination will raise, the fact that the USPTO Green Technology Pilot Program was temporary from its inception may have been a problem throughout its operation. Tran argues that the transient nature of the program precluded its ability to foster green innovation because it did not last long enough to accommodate the inventive process.[178] Along those lines, Nuehring notes that the pilot program remained "untested," and practitioners did not come to rely upon it.[179] Its very nomenclature trumpeting pilot status may have been problematic, Nuehring posits, as "[t]he mere designation as a pilot program has sometimes been considered a harm to participation."[180] Thus, both reality

173. *See* discussion *supra* Section IV.A.

174. *See supra* note 120.

175. *See* discussion *supra* Part III.

176. *See* Expansion and Extension of the Green Technology Pilot Program, 75 Fed. Reg. 69049, 69050 (Nov. 10, 2010) ("The program is also being extended until December 31, 2011").

177. *See* discussion *supra* Part III.

178. *See* Tran, *supra* note 156, at 152–53 ("Even though the PTO later expanded the program to include pending applications, the program still fails to provide an incentive for innovation as it is set to expire less than a year after the expansion took effect. As the PTO is likely well aware, for many technologies, one year is insufficient time for an inventor to conceive of an idea, reduce it to practice, and prepare an application for the invention.").

179. *See* Nuehring, *supra* note 154, at 618 ("Another temporary issue with the Green Technology Pilot Program is that it is an untested pilot program and, as such, has not become a tried and true program relied upon by patent practitioners").

180. *Id.*

and perception make the temporary or pilot status of a fast track program a drawback.[181]

2. The KIPO's "Superspeed" Program

Turning to Korea, the onerous subject matter eligibility scheme stands out as seriously flawed. To qualify for the Korean "superspeed" examination program, an applicant has two potential admission paths. First, the patent application could relate to one of seven enumerated technology classes, some of which are quite narrow, such as "noise and vibration prevention" and "livestock excretions management, purification and disposal"; others are broader like waste disposal, sewage disposal, recycling, water quality, and air pollution prevention.[182] A patent application directed to a technology in one of these areas is automatically eligible for the program.[183]

An eighth category of technologies lists several subcategories for which a patent application is eligible only if the invention has "received financial support or certification from the government."[184] One problem is that these subcategories include the lion's share of important green technologies: "new renewable energy technology" (which includes, *inter alia*, solar, wind, geothermal, batteries, tidal and wave energy) or "carbon reduction technology," LEDs, green transport, greenhouse gas emissions, or green cities technologies.[185] These enumerated green technology subcategories of category eight are fleshed out with some examples, to make crystal clear exactly what KIPO is shutting out of its green tech program—e.g., solar, wind energy, geothermal energy, tidal energy, wave energy, bioenergy, batteries, carbon capture and storage, LED lighting, hybrid cars, plug-in hybrid cars.[186] Thus, inexplicably, wind energy and hybrid vehicles are subordinated to livestock excretion disposal and vibration prevention methods.

Moreover, to apply for the necessary green certification, a non-Korean applicant must have a separate corporate entity with a branch office in Korea, making the certification path a dead end for most applicants.[187] It is

181. While making the program permanent might cause a spike in petitions, the process restrictions proposed in Section V.D, *infra*, should temper any associated adverse effects on patent office and examiner workload.

182. *See* Lane, *supra* note 90.

183. *See id.*

184. *See* Hanyang Newsletter, *supra* note 90.

185. *See id.*

186. *See id.*

187. *See* Eric L. Lane, *KIPO Green Tech Fast Track Inaccessible for Most Applicants*, GREEN PATENT BLOG (Nov. 7, 2011), http://www.greenpatentblog.com/2011/11/07/kipo-green-

unlikely that more than a small fraction of non-Korean patent applicants have received funding from the Korean government.[188] The Author has had to advise multiple U.S. clean tech clients that their patent applications are not eligible for accelerated examination in Korea because of the certification or funding requirement. Thus, the dual roadblocks of the sometimes esoteric automatic categories coupled with the funding or certification requirement for a host of critical green technologies leaves the KIPO "superspeed" program inaccessible for many clean tech companies seeking green patent protection in Korea.[189]

3. The IPO's Green Patent Fast Track Program

The Israeli fast track initiative also suffers from a flawed subject matter eligibility scheme. To qualify for the program, the patent application must be directed to an invention that falls into one of the IPO's enumerated green classifications.[190] The applicant has the burden of explaining the invention's environmentally friendly features in a manner that will slot the patent application into an acceptable green class. As in the United States, the IPO's classification-based subject matter eligibility requirement can be costly and inefficient as applicants expend resources to draft (and perhaps re-draft) submissions to shoehorn their inventions into enumerated green classifications.

4. The JPO's Green Patent Fast Track Program

The JPO fast track program raises a serious process problem through its requirement that the applicant conduct a prior art search and analysis. Specifically, the search and analysis component requires the applicant to conduct a prior art search, disclose the prior art to the JPO, and submit to the JPO an explanation comparing the invention to the prior art.[191] While disclosure of known material prior art is an ordinary duty of a patent

tech-fast-track-inaccessible-to-most-applicants/ (discussing email correspondence from Korean patent attorney Terry Kang which explains that "only if [a] foreign company has a branch office which is a separate entity in Korea, that branch office can apply for the 'Green Certification.' ").

188. To the Author's knowledge, none of his clients has received funding from the Korean government in connections with research or development of a clean tech invention.

189. Though beyond the scope of this Article, the protectionist "certification or funding" requirement begs the question whether the KIPO "super speed" program is designed to promote global green innovation, or rather, is intended to serve only Korean green technology applicants.

190. *See* Lifshitz, *supra* note 125.

191. *See* Japan Patent Attorneys Ass'n, *Accelerated (Appeal) Examination for Green Technology Patent Applications* (Mar. 7, 2010), http://www.jpaa.or.jp/english/whatsnew/green_technology_patent.pdf.

applicant in some jurisdictions,[192] the search and explanation responsibilities shift much of the patent office's burden onto the applicant.

For an idea of how these additional burdens affect an applicant, the USPTO's existing (i.e., pre-Green Technology Pilot Program) accelerated examination program based on special status is instructive. Petitions to make special and obtain accelerated review in the USPTO must comply with a number of requirements, including submission of a pre-examination search report[193] and an examination support document.[194] As an initial matter, the task of conducting a prior art search can be quite costly.[195] Though it is unclear how rigorous the search for the JPO fast track needs to be relative to the USPTO's search, any prior art search should be conducted by a patent professional and thus adds significant expense to the application process.

The comparative explanation required by the JPO is analogous to the examination support document ("ESD"), which must include an explanation of what the prior art teaches and how the applicant's invention is patentable over the prior art. In addition to the added expense of this analysis and explanation, the ESD has been dubbed the "express suicide document" because of the heightened risk of inequitable conduct applicants face based on the representations made in their ESD.[196] The comparative explanation for the JPO could expose the applicant to similar risks. For these reasons, the ESD has discouraged participation in the USPTO accelerated examination program[197] and the similar requirement in the JPO likely has the same effect.

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192. *See, e.g.*, 37 C.F.R. § 1.56 (2011) ("Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section"); *see also Keisen's Policy on the IDS System in Japan*, KEISEN ASSOCIATED, http://www.keisenassociates.com/IP%20News%20Flash-%20IDS.htm ("The Japan Patent Office (JPO) has implemented an information disclosure system whereby applicants have a duty to disclose prior art that they know of at the time of filing a patent application").

193. *See* MPEP § 708.02(a)(1)(H) ("At the time of filing, applicant must provide a statement that a preexamination search was conducted, including . . . class and subclass and the date of the search . . . .").

194. *See* MPEP § 708.02(a)(1)(I).

195. *See* Tran, *supra* note 156, at 141 ("This search could easily cost the applicants thousands of dollars in additional legal fees").

196. Gene Quinn, *Accelerated Exam in Inequitable Conduct Friendly Era*, IP WATCHDOG (Aug. 11, 2009), http://www.ipwatchdog.com/2009/08/11/accelerated-exam-in-inequitable-conduct-friendly-era/id=4833/.

197. *See* Tran, *supra* note 156, at 140 ("Even though the revised Accelerated Examination program strives to provide inventors with a final decision on their applications within twelve months . . . and holds the potential to raise the quality of issued patents, the program has attracted little interest from inventors due to the liabilities and burdens it places on applicants"); *see also* Quinn, *supra* note 196 ("Unless and until the Patent Office revises the

5. *The UKIPO, CIPO, and IP Australia Green Patent Fast Track Programs*

There is little to fault in the fast track programs administered by the UKIPO, the CIPO, and IP Australia. Their program rules include none of the drawbacks in subject matter eligibility or process requirements that hamper some of the other initiatives. Specifically, CIPO, IP Australia, and UKIPO do not have a classification scheme with enumerated technology categories; a green patent application need only broadly relate to environmentally beneficial technology to be eligible for accelerated examination. As to process, these programs impose no onerous search or submission requirements, and only a declaration or similar written statement describing the invention is necessary. Finally, there are no restrictions on claim number or scope so applicants need not re-draft claim sets to specially tailor them to satisfy restrictive subject matter eligibility standards. While the lack of process restrictions could negatively impact the speed of these programs should the offices receive an overwhelming number of applications, that problem has yet to arise.[198] As discussed in Section V.D, *infra*, certain process restrictions would benefit a harmonized fast track system by maintaining the speed and efficiency of the system.

V. PROPOSAL FOR HARMONIZATION

To remedy the problems discussed in Part IV, *supra*, this Part proposes a harmonized international accelerated examination system for patent applications directed to green technologies. The goals of such a system, such as boosting participation by clean tech applicants while avoiding free-riding non-beneficial green technologies and maintaining the requisite speed and efficiency, are laid out herein. This Part argues that an expansive subject matter eligibility scheme unrestricted by enumerated technology classifications would increase participation. A "material environmental benefit" standard of review would strengthen the eligibility scheme and serve as a policing mechanism to ameliorate the free-rider problem. In addition, this Part posits that reasonable process restrictions such as limits on the number and type of claims and a single invention requirement would reduce

accelerated examination requirements I think this procedure will continue to be undesirable . . . . It simply makes no sense to me to have such a procedure be severely under utilized, and so over burdensome.").

198. As of early March 2012, 429 applications had been accepted into the UKIPO Green Channel, and the IP Australia fast track program has processed only twenty-eight applications. *See Database of Green Channel Applications*, http://www.ipo.gov.uk/types/patent/p-os/p-gcp.htm; *see also* IP Australia, List of Green Technology Applications (on file with author).

patent examiner workload and streamline the examination process. This Part concludes with a proposed statement of rules for the Global Green Patent Highway—a harmonized international fast track system for green patent applications having a single, standardized set of rules—to make accelerated examination in multiple intellectual property offices more efficient.

A. ADVANTAGES OF HARMONIZATION

In light of the burdens imposed on green patent applicants by the need to understand and satisfy the disparate patchwork of expedited examination program rules, a standardized global system of green technology fast track requirements would be a major boost to participation in such programs. In turn, greater international participation in green patent fast track programs could expedite green innovation by encouraging investment in R&D and speeding deployment of green technologies through patent licensing.

A harmonized global green patent fast track initiative would provide two advantages over the current system of individual programs. First, it would provide a single, standardized set of program rules that would apply to each and every national intellectual property office offering expedited examination for green patent applications. A universal list of requirements would obviate the need to investigate, understand, and comply with several very different iterations of program rules, thereby eliminating a substantial burden on applicants. Gone would be the extra expense associated with preparing different explanations of the invention, determining the most pertinent enumerated technology classification, and re-drafting claim sets of different number and scope. In short, harmonization would greatly simplify a complicated process by reducing costs and creating efficiencies.

Second, by implementing a universal set of rules now, we have the opportunity to build the best possible green patent fast track program from the various rules and restrictions being employed by the existing programs. To compile the optimal set of program parameters for the Global Green Patent Highway, it is important to identify goals for its operation. With those goals in mind, we can look to the individual programs as laboratories and examine them to determine which rules, if any, have been successful in attaining those goals. While at least one commentator has suggested the USPTO might be improved by borrowing some rules from green patent fast track programs abroad,[199] optimization of just one of the many accelerated examination initiatives falls far short of the reform necessary to boost

199. *See* Neuhring, *supra* note 154, at 619 ("One way to determine how a fully implemented green technology patent program could be structured in the United States without overloading our patent system is to look at the standards used in other countries.").

participation in a way that would foster global green innovation. Rather, taking the analysis a step further to consolidate all the programs into the best possible single harmonized global system would be the best approach.

B. GOALS OF THE GLOBAL GREEN PATENT HIGHWAY

Of course, the core purpose of a global green patent fast track system (hereinafter "Global Green Patent Highway" or "Global GPH") is to significantly reduce the period of time from filing a green patent application to patent grant. To this end, the Global GPH must prevent patent examiners from being overworked and thus slowing down examination. If any individual intellectual property office becomes overloaded and is therefore unable to deliver a satisfactory reduction in examination time, it would undermine the system's raison d'être. As discussed *infra*, the speed of the Global GPH can be maintained by imposing reasonable process restrictions on participating patent applications. Another important goal is to maximize participation by applicants who own patent applications directed to beneficial green technologies. Although process requirements may have some effect on participation, it is chiefly the eligibility parameters that determine participation levels.[200] The subject matter eligibility scheme, in particular, must be carefully tailored to permit a sufficient diversity of green technologies while excluding technologies devoid of environmental benefits.

The best way to accomplish these goals is to create a balanced system that couples broad subject matter eligibility requirements with reasonable process restrictions. The former is geared toward expanding participation to include as many useful green technologies as possible while the latter serves a check on examiner workload levels to maintain sufficiently high-speed examination. In scholarly critiques of the USPTO program, some commentators have argued that the large number of program restrictions compromise the effectiveness of the program,[201] while others have called for lifting certain specific restrictions, such as those on the number of claims.[202] Although it is undoubtedly true that eliminating all of the eligibility and

200. *See id.* at 612–13 (discussing the spikes in petitions for the USPTO Green Technology Pilot Program after the subject matter eligibility requirement was relaxed and after the program was opened to newly-filed patent applications).

201. *See* Tran, *supra* note 156, at 150 ("While many of these restrictions were fairly benign and had only minimal impacts on the eligibility of applicants when considered individually, applications that satisfied all of the restrictions for eligibility in the pilot program were bound to take less time to review than the average application on a green technology due to their inherent simplicity, rather than due to any efforts by the PTO to expedite them.").

202. *See* Wong, *supra* note 1, at 251 ("[T]he claim restrictions must be removed so that all eligible applications can participate regardless of the number of claims").

process restrictions would satisfy the goal of easing participation, that benefit must be weighed against the need to manage the workload of the patent examiners and maintain high-speed examination.

In this regard, not all program rules are created equal. Rather, it is helpful to distinguish between rules that pertain to subject matter eligibility and those non-subject matter-based rules that relate to process parameters. By their nature, the subject matter eligibility rules are best suited for expanding participation because they dictate the size of the universe of eligible technologies, and therefore applicants, that can take advantage of the program. Moreover, an expansive subject matter eligibility rule would minimize the odds of excluding potentially beneficial green technologies that do not fall into currently recognized technology classes. The process rules, on the other hand, are good tools for ensuring the examiner workload is manageable as they serve to limit the size and scope of the patent applications being examined on the fast track.[203]

C. OPTIMAL SUBJECT MATTER ELIGIBILITY RULES: EXPANSIVE SUBJECT MATTER ELIGIBILITY AND A "MATERIAL ENVIRONMENTAL BENEFIT" STANDARD

The optimal subject matter eligibility requirement would be expansive to include all green technologies, but not so broad that patent applications directed to inventions conferring minimal environmental benefit can take advantage of the Global GPH.[204] Clean technology is not a unified category, but an umbrella term that covers many areas of technology.[205] It includes renewable-energy generation technologies such as solar, wind, hydro, wave and tidal, geothermal and biofuels, energy storage technologies such as fuel cells and advanced batteries, transportation technologies such as hybrid and electric vehicles, energy infrastructure technologies including smart grid, energy-efficient power systems, building materials and lighting technologies, bio-based plastics and other materials, water filtration and desalination systems, technologies that reduce pollution and emissions, and even carbon

203. *But see* Nuehring, *supra* note 154, at 626 (suggesting that the USPTO reinstitute a green technology classification requirement once the program becomes more popular).

204. *See* Tran, *supra* note 156, at 154–55 ("If the definition is too restrictive, it will exclude beneficial technologies from eligibility. On the other hand, if the definition is too broad it will allow for excessive free riding by inventions of little social worth.") (citations omitted).

205. *See* Cleantech Group, *What is Cleantech?*, http://www.cleantech.com/about-cleantech-group/what-is-cleantech/ (last visited Mar. 15, 2012) ("Cleantech represents a diverse range of products, services, and processes . . . Cleantech spans many industry verticals which we have organized into 13 categories.").

trading schemes and other green policies and investment mechanisms.[206] Therefore, if a fast track system is to effectively promote green innovation, it must be open to all beneficial green technologies without limitation. That is, no specific technology fields should be excluded from eligibility. However, technologies that provide only minimal, tangential, or speculative environmental benefits should not enjoy accelerated examination, as such patent applications would divert resources from the truly beneficial green technologies.

On this score, the UKIPO Green Channel's protocol stands out as the best model, with the CIPO program also exemplary.[207] To qualify for the Green Channel, the applicant must make a reasonable assertion, by way of a brief written statement, that the patent application is directed to an invention that has an environmental benefit.[208] The expansive scope of eligible green technology conferred by the "environmental benefit" standard is the best approach to encourage wider participation. For instance, after the USPTO relaxed its subject matter eligibility rule by eliminating the technology classification requirement, the number of fast track petitions filed rose twenty-six percent[209] and the number of petitions granted increased approximately twenty-five percent.[210] This spike suggests that broad technology eligibility has a positive effect on program participation.

This approach has another important advantage over a classification-based eligibility scheme: it makes the Global GPH accessible to any type of green technology—now known, or later discovered, conventional or unconventional—even if it would not immediately be recognized as green. Any technology is eligible so long as the applicant demonstrates an invention's environmental benefit. Technologies for which the

206. *See id.*

207. *See supra* Section III.B (discussing the favorable rules of these programs, including expansive subject matter eligibility with no enumerated technology classification requirement).

208. *See* UK Intellectual Property Office, *supra* note 80.

209. *See* Nuehring, *supra* note 154, at 612 ("[A]bout 184 requests were made per month after the elimination of the classification system, a 26% increase").

210. *See id.* at 612 ("[T]the percentage of applications actually granted accelerated examination under the Green Technology Pilot Program increased after the elimination of the classification system. Approximately 350 of the 950, or approximately 37% of the requests filed between December 2009 and mid-June 2010 were granted accelerated examination. In contrast, approximately 795 of the 1,286, or approximately 62%, of the requests filed between mid-June 2010 and mid-January 2011 were granted accelerated examination. Therefore, the percentage of applications granted accelerated examination actually increased approximately 25% after the classification system was eliminated, presumably because a wider variety of inventions were considered eligible for the program.").

environmental benefit is immediately apparent such as solar or wind power would need a very brief statement, while a more detailed explanation may be required for a less obviously green technology such as an energy efficient manufacturing process.[211] The UKIPO recognizes that in a very diverse clean tech industry it is necessary to have a flexible standard:

> This is because inventions which have an environmental benefit can arise in any area of technology. For example, we would accept an acceleration request for a manufacturing process which uses less energy, in the same way as we would accept an acceleration request for a wind turbine or a recycling process.[212]

To make the subject matter eligibility scheme more robust, a materiality component should be added to the "environmental benefit" standard. In this regard, the standard could borrow language from the USPTO Green Technology Pilot Program, which defines green technologies as those inventions that "materially enhance[] the quality of the environment, or materially contribute[] to" certain environmental benefits such as renewable energy generation, energy efficiency, or emissions reduction.[213] Tran argues that the materiality hurdle is an important check on acceptance that helpfully circumscribes to some extent the eligible technologies: "[T]he materiality standard serves as a policing mechanism to ensure that inventions that have only tangential or speculative effects on the environment cannot avail themselves of special status."[214] To meet the materiality standard, then, a patent application must be directed to a green technology that has a substantial and direct environmental benefit.[215]

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211. *See Frequently Asked Questions*, UKIPO, http://www.ipo.gov.uk/pro-types/pro-patent/p-law/p-accelerated/pro-p-green/pro-p-green-faq.htm ("The applicant needs to provide as much justification as is necessary to explain why their invention is environmentally-friendly. If, for example, the application relates to a solar panel or a wind turbine then a simple statement is likely to be sufficient. If however the application relates to, for example, a more efficient manufacturing process which uses less energy, then a more detailed explanation is likely to be necessary to explain how the invention has an environmental benefit.").

212. *Id.*

213. *See* Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. 64,666, 64,667.

214. Tran, s*upra* note 156, at 139.

215. *See* Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. 64,666, 64,667 ("The materiality standard does not permit an applicant to speculate as to how a hypothetical end-user might specially apply the invention. . . . Nor does such standard permit an applicant to enjoy the benefit of advanced examination merely because some minor aspect of the claimed invention may [be directed to one of the grounds for special status].").

The written statements of the applicants should not be rubber stamped, and some measure of oversight is necessary to provide a further check on the admissible green technologies. Here, the UKIPO, CIPO and USPTO fast track programs are instructive. The Green Channel reviewers in the UKIPO evaluate the written statements on a case-by-case basis and, while they do not conduct a detailed investigation into the assertions of environmental benefits, they refuse cases that are clearly unfounded.[216] Similarly, the CIPO does not question or challenge an applicant's declaration of environmental benefits.[217] The USPTO provides guidance on who might be best suited to conduct these initial reviews. In the pilot program it was Supervisory Program Examiners ("SPE") reviewing the petitions for, *inter alia*, subject matter eligibility. Tran argues that having SPEs conduct the eligibility review is another important quality assurance mechanism because the SPEs are few in number and highly trained, and as such, would maintain a certain level of consistency in their eligibility determinations.[218] With an expansive technology definition circumscribed somewhat by the materiality standard—essentially a "material environmental benefit" standard—and written statements screened by a small number of trained reviewers, this subject matter eligibility protocol would encourage wider participation and admit a high percentage of beneficial green technologies.

An eligibility parameter unrelated to subject matter might bear on participation to some extent. That is, the Global GPH should be open to newly filed applications. All of the existing green technology accelerated examination programs are structured this way, and the USPTO's course correction on this aspect suggests that it boosts participation. After the USPTO eliminated the restriction that only patent applications filed before the pilot program launch date of December 8, 2009 were eligible, the number of petitions per month increased by approximately fifty-three percent.[219]

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216. *See* UK Intellectual Property Office, *supra* note 80 ("The IPO will not conduct any detailed investigation into these assertions, but will refuse requests if they are clearly unfounded, for example if the application relates to a perpetual motion machine.").

217. CIPO, *supra* note 129 ("Will the Office question the declaration from the applicant? No. It is the applicant's responsibility to ensure the accuracy of their declaration.").

218. Tran, s*upra* note 156, at 156 ("[T]here is only one Supervisory Program Examiner in each of the eight Technology Centers. These eight individuals have received the same training on the standards for determining the eligibility of petitions for special status 'to ensure uniformity to the maximum extent possible.' Given the small number of these specialized and highly-trained Supervisory Program Examiners, the likelihood that patent applicants would receive inconsistent determinations as to eligibility is likely negligible.").

219. *See* Nuehring, *supra* note 154, at 613 ("[T]he USPTO announced that the program had been extended to include patent application filed on or after December 8, 2009. As a result the number of requests to have applications included in the program increased

Thus, in addition to the liberal subject matter eligibility scheme, a broad patent application status eligibility rule that includes newly-filed applications should be included in the Global GPH.

D. OPTIMAL PROCESS REQUIREMENTS: REASONABLE RESTRICTIONS PROVIDE A CHECK ON EXAMINER WORKLOAD

The optimal process requirements should further the critical core purpose of the Global GPH, that is, to reduce the period of time from filing a green patent application to patent grant. Although overly restrictive subject matter eligibility rules directly hamper participation by precluding some technologies, process restrictions are not inherently detrimental but are instead problematic primarily due to significant disparities across the fast track network. If standardized, reasonable process restrictions can help to maintain the speed of the Global GPH by ensuring that examiner workloads remain manageable even while participation increases due to the broad eligibility rules. This is critical because the USPTO suffers from a severe backlog.[220] With the JPO, these two intellectual property offices rank first and second in number of patent applications processed.[221] Thus, the Global GPH must contain mechanisms to manage the processing of the additional patent applications that would hopefully enter the national intellectual property offices, particularly the USPTO and the JPO.

Certain process restrictions, particularly those that pertain to the claims, would be very useful as they serve to limit the size and scope of the patent applications being examined on the fast track. The USPTO pilot program offers the most detailed menu of options to regulate claim number and scope, and some of these should be incorporated into a standardized fast track system. First, the number of claims should be limited to twenty, perhaps even fewer, with three or fewer independent claims and no multiple dependent claims. Contrary to some commentary calling for no limitations on claim number,[222] a range of ten to twenty claims allows a patent practitioner ample latitude to claim the truly innovative features of any single

dramatically. Between mid-January and late May 2011, an additional 1,291 requests were made, approximately 287 requests per month. Therefore, the number of requests per month increased by approximately 53% after the November, 10, 2010 announcement.").

220. *See, e.g.*, Lily J. Ackerman, Note, *Prioritization: Addressing the Patent Application Backlog at the United States Patent and Trademark Office*, 26 BERKELEY TECH. L.J. 67 (2011).

221. *See* Nuehring, *supra* note 154, at 623–24 ("In 2009, the USPTO examined nearly 483,000 patent applications. . . . In 2009, the JPO received approximately 349,000 patent applications").

222. *See* Wong, *supra* note 1, at 251 ("[T]he claim restrictions must be removed so that all eligible applications can participate regardless of the number of claims.").

invention. A closely related second restriction is that the claims should be limited to recitation of a single invention, as in the USPTO pilot program. On this point, the JPO's rigorous unity of invention standard might be incorporated into the single invention requirement. It is not unreasonable to require applicants to file separate fast track petitions should they wish to accelerate examination of additional inventions.

These restrictions would go a long way toward streamlining the examination process for patent examiners. To examine a claim set directed to a single invention, an examiner has to conduct only one prior art search rather than formulating a separate search for each additional invention. A reasonable number of claims with only single dependencies further limits the time an examiner needs to spend examining a patent application and writing up office actions. Reasonable claims restrictions such as these can manage the workload of the patent examiners and maintain high-speed examination while still allowing applicants enough latitude to claim key features of their inventions.

With the basic contours of the Global GPH established, the Article now turns to a proposed statement of the Global Green Patent Highway Program and Rules.

E. WHAT IT SHOULD LOOK LIKE: A PROPOSED STATEMENT OF THE GLOBAL GREEN PATENT HIGHWAY PROGRAM AND RULES

This Section proposes a statement of the program and rules for the hypothetical Global Green Patent Highway. This statement would appear in the patent prosecution guidelines of each national intellectual property office that elects to participate in the Global GPH. For the statement below, this Section assumes participation by all the national intellectual property offices that have had, currently have, or will soon have, accelerated examination programs for green technologies.[223]

The Global Green Patent Highway Program and Rules

The Global Green Patent Highway ("Global GPH") is a uniform international system for accelerated examination of patent applications

223. As mentioned in note 187, *supra*, the "certification or funding" requirement of the KIPO "super speed" program may indicate that the office's goal is to further green technology development for Korean applicants only, in which case the KIPO might not elect to participate in an international harmonized green patent fast track system. Other national intellectual property offices, such as the USPTO, which recently ended its pilot program, might forgo participation in such a system as well. In any event, if even a small number of intellectual property offices were to participate in a standardized system, it would be an improvement over the current disparate patchwork of programs.

relating to green technology. Though individually administered by each participating national intellectual property office, the Global GPH has one standardized set of rules and requirements employed by every participating office. The Global GPH is a permanent program.

The participating offices are the U.S. Patent and Trademark Office, the United Kingdom Intellectual Property Office, the Japan Patent Office, the Canadian Intellectual Property Office, the Korean Intellectual Property Office, IP Australia, the Israel Intellectual Property Office, and the Brazil National Institute of Industrial Property.

To qualify for the Global GPH, an applicant must submit a written request containing a reasonable assertion that the invention confers a material environmental benefit. The offices will require no further reasons for expedited processing and examination; a satisfactory reasonable assertion will suffice for this purpose.

The accompanying patent application must meet the following requirements:

- The application contains two or fewer independent claims, fifteen or fewer total claims, and no multiple dependent claims.
- The application claims a single invention that confers a material environmental benefit. Should the patent examiner find multiple inventions, the applicant must make a telephonic election of a single invention for examination.
- The application is newly filed with the request or previously filed and currently pending, but has not yet received a first office action.

A Supervisory Program Examiner (or its equivalent in some offices) will review each request on a case-by-case basis with deference to the applicant's reasonable assertion and will only reject requests that are clearly unfounded. The timing of the first substantive office action and further prosecution will vary by national intellectual property office, but in no case shall the first substantive office issue an action more than three months after the filing date of the request.

There is no limit on the number of requests and patent applications that can be accepted into the Global GPH. There is also no additional fee for accelerated examination on the Global GPH; the usual patent application fees for each office apply. Aside from the special requirements of the Global GPH, all other patent laws and rules for each jurisdiction and office apply.

Note that the applicant need only prepare one submission containing the written request and the conforming patent application to apply for the

Global GPH in any number of participating offices. The same submission may be filed in each participating office (subject to translation requirements) and will satisfy the Global GPH requirements in each office.

By offering a uniform system with one set of rules, the Global GPH aims to increase participation in accelerated examination programs for green technology patent applications around the world and foster green innovation.

VI. CONCLUSION

Patents play a critical role in green innovation by providing incentives to invest in R&D and facilitating implementation and international diffusion of green technologies. Accordingly, several national intellectual property offices offer accelerated examination procedures for patent applications directed to green technologies so clean tech innovators can obtain patents more quickly. While these programs in their current form are beneficial for the global clean tech industry, they suffer from some serious drawbacks. In particular, the disparate fast track programs vary widely in their rules and requirements. Because of these disparities, it can be costly and time consuming for applicants and their patent attorneys to participate in multiple fast track programs.

Harmonization of the disparate green patent fast track programs into a uniform system with a single set of rules and requirements would greatly streamline the process for green patent applicants and boost participation. A standardized green technology accelerated examination system should encourage wide participation, be open to all environmentally beneficial technologies, and keep patent examiner workloads at manageable levels to maintain sufficient speed in patent application processing. A system that has expansive subject matter eligibility requirements and reasonable process restrictions would accomplish these goals. Critical analysis of the existing green patent fast track programs points to a "material environmental benefit" standard for subject matter eligibility and the process restrictions of a claim number cap and a strict single invention requirement. As such, the proposed Global Green Patent Highway would be a powerful mechanism for fostering green innovation and should be employed as a tool in the battle to combat climate change.

APPEALS FROM THE INTERNATIONAL TRADE COMMISSION: WHAT STANDING REQUIREMENT?

Daniel E. Valencia†

ABSTRACT

The U.S. International Trade Commission ("ITC") is one of the world's most influential intellectual property adjudicators. Based on its enabling statute, 19 U.S.C. § 1337 ("section 337"), the ITC may use its power to issue exclusion orders to bar importation of goods that infringe U.S. patents. Section 337 includes what appears to be an express standing requirement, which provides that "[a]ny person adversely affected by a final determination of the Commission . . . may appeal such determination" to the Federal Circuit. On its face, this language is broad, but it is unclear how this provision fits with the case or controversy requirement of Article III of the U.S. Constitution.

This Article explores the question of whether a party has standing to appeal an ITC determination to include or omit certain patent claims in an exclusion order, a question that, until recently, had a straightforward answer: ITC complainants always have standing while ITC respondents usually have standing. As illustrated by recent, conflicting decisions, the Federal Circuit is struggling with the scope of ITC exclusion orders as well as questions about the standing doctrine in appeals from ITC determinations. At least for the time being, the Federal Circuit has suggested that the question of whether the ITC's grant or denial of exclusion has an "immediate practical effect" on the appellant is central in determining whether that potential appellant has standing to appeal from the ITC to the Federal Circuit.

Nevertheless, given the unsettled state of the law, these questions will likely be the subject of future litigation. This Article analyzes the recent case law and sets forth why the Federal Circuit should resist making the standing requirement in ITC appeals difficult to meet, both as a matter of law and public policy.

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† Attorney, U.S. International Trade Commission. The views presented in this Article are the views of the author only. This Article does not represent the views of the International Trade Commission or anyone affiliated therewith. The author would like to thank his brother, Alejandro Valencia, for his time, effort, and thoughtful comments throughout the writing process.

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I. INTRODUCTION

The U.S. International Trade Commission ("ITC") is one of the world's most influential intellectual property adjudicators. Based on its enabling statute, 19 U.S.C. § 1337 ("section 337"), the ITC, an administrative agency in the executive branch, may use its power to issue exclusion orders to bar importation of goods that infringe U.S. patents.[1] In recent years, the ITC has become a forum of choice to litigate patent disputes, particularly in the realm of consumer electronics. This is due in large part to fast adjudication and the availability of the powerful exclusion order. Since substantial manufacturing operations have moved abroad, an ITC exclusion order can swiftly close off the U.S. market to imported products.

To issue an exclusion order, the ITC must formally investigate the complainant's patent claims and decide whether the respondent's products infringe one of more of those claims. The ITC uses traditional tools of patent law analysis to examine patent claims, which contain descriptive language

1. 19 U.S.C. § 1337(a), (d) (2010).

that provides the legal definition of the patent rights.[2] A patent can cover a class of products past, present, and future on which the claims read. The breadth of the class of products covered by the patent depends on how broadly the patent claims read. The ITC has consistently issued exclusion orders with broad language to cover infringing future products not yet developed at the time of the investigation.[3] Exclusion orders may be appealed to the U.S. Court of Appeals for the Federal Circuit ("Federal Circuit"), but recent decisions relating to standing in such appeals have raised questions about the scope of exclusion orders.

Article III of the U.S. Constitution governs standing in exclusion order appeals, as does the ITC's own statute. The Article III case or controversy requirement includes, among other things, the doctrines of standing and mootness. Standing is the requirement that a litigant demonstrate (1) that it has suffered a particular injury, (2) that "is fairly traceable to the defendant"/respondent, and (3) "that it is likely that a favorable decision will redress that injury."[4] The Supreme Court has held that only concrete, particularized injury in fact will suffice to confer standing on a litigant.[5] In most cases, the Supreme Court has declined to consider future injuries sufficient unless the harm is "imminent."[6] Nevertheless, courts have held seemingly speculative injuries to be a particular injury suitable for standing.[7]

Mootness is the requirement that a case or controversy exists at all stages of the dispute.[8] The Federal Circuit, as an Article III court, is bound by the case or controversy requirement even in appeals from Article II administrative agencies, like the ITC.[9] Thus, the Federal Circuit faces the task of sorting out appeals by litigants seeking to reverse ITC decisions, including the issuance (or non-issuance) of exclusion orders.

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2. *See* 35 U.S.C. § 112 (2010).

3. *See, e.g.*, Certain Hardware Logic Emulation Sys. & Components Thereof, Inv. No. 337-TA-383, USITC Pub. 3089, at 15–16 (Mar. 1998) (Comm'n Op.) ("[T]he Commission's long-standing practice is to direct its remedial orders to all products covered by the patent claims as to which a violation has been found, rather than limiting its orders to only those specific models selected for the infringement analysis.").

4. Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497, 517 (2007).

5. Summers v. Earth Island Inst., 555 U.S. 488, 493 (2009); *see also* Lujan v. Defenders of Wildlife, 504 U.S. 555, 560 (1992).

6. *Lujan*, 504 U.S. at 560.

7. *See Massachusetts v. EPA*, 549 U.S. at 521–23 (finding that the Environmental Protection Agency's decision not to regulate greenhouse gasses contributed to the particularized injuries associated with global warming).

8. Arizonans for Official English v. Arizona, 520 U.S. 43, 67–68 (1997).

9. *See* Yingbin-Nature (Guangdong) Wood Indus. Co. v. Int'l Trade Comm'n, 535 F.3d 1322, 1329–30 (Fed. Cir. 2008) (discussing the case or controversy requirement in the context of an appeal from the ITC).

Section 337, the ITC's statute, includes what appears to be an express standing requirement, which provides that "[a]ny person adversely affected by a final determination of the Commission . . . may appeal such determination" to the Federal Circuit.[10] On its face, this language is broad. Still, it is unclear how this provision fits in with the case or controversy requirement of Article III of the U.S. Constitution. Few cases have dealt with standing to appeal from the ITC largely because this requirement, until recently, had been considered easy to meet due to the broad reach of ITC exclusion orders.

Indeed, the scope of ITC exclusion orders and the scope of the standing requirement are integrally related insofar as the scope of exclusion orders defines the class of potential injuries that are appealable to the Federal Circuit. While the language of typical ITC exclusion orders is broad, some have disagreed on whether the practical scope of these orders is coextensive with the broad language of these orders.[11] Consequently, the scope of ITC exclusion orders has implications for the manner in which the Federal Circuit applies the standing doctrine. Conversely, the manner in which the Federal Circuit applies the standing doctrine may say something about whether the Federal Circuit views the scope of exclusion orders to be as broad as the ITC intended.

This Article explores the question of whether a party has standing to appeal to the Federal Circuit an ITC determination to *include or omit* certain patent claims in an exclusion order, a question that, until recently, had a straightforward answer: ITC complainants always have standing while ITC respondents usually have standing. Although there is no clear rule regarding the extent of the standing requirement, several key observations can be made from several recent Federal Circuit decisions, including *Yingbin-Nature (Guangdong) Wood Industry Co. v. International Trade Commission*[12] and *Applica Consumer Products, Inc. v. International Trade Commission*.[13] As illustrated by these decisions, the Federal Circuit is struggling with questions about the scope of ITC exclusion orders as well as constitutional and statutory questions about the standing doctrine in appeals from ITC determinations. Given the unsettled state of the law, these questions will likely be the subject of future litigation. At least for the time being, the Federal Circuit has suggested that

10. 19 U.S.C. § 1337(c) (2010).

11. Paul M. Bartkowski, *ITC Remedial Orders—The Case for Conformity with Patent Injunctions*, 337 REPORTER, Vol. 35, 2011, at 2–3.

12. *Yingbin*, 535 F.3d at 1322.

13. Applica Consumer Prods., Inc. v. Int'l Trade Comm'n, 2010 WL 8344380 (Fed. Cir. June 23, 2010) (non-precedential order).

the question of whether the ITC's grant or denial of exclusion has an "immediate practical effect" on the appellant is central in determining whether that potential appellant has standing to appeal from the ITC to the Federal Circuit.[14]

Part II of this Article sets forth background information about the ITC, its remedy practice, and the resulting complexity of appeals from the ITC to the Federal Circuit. Section II.C of this Article describes the integral relationship between the scope of ITC exclusion orders and standing to appeal from the entry or denial of those same orders. The remainder of Part II analyzes and attempts to reconcile a pair of somewhat contradictory Federal Circuit decisions on the standing issue. Next, in Part III, this Article tackles an October 2011 decision, *John Mezzalingua Associates v. International Trade Commission*,[15] which many thought would clear up the standing controversy, but instead leaves a few important questions unanswered. Finally, this Part sets forth why the Federal Circuit should resist making the standing requirement in ITC appeals difficult to meet, both as a matter of law and public policy, given the breadth and impact of ITC exclusion orders.

II. BACKGROUND

A. SECTION 337 GENERALLY

A § 337 investigation can be based on a complaint filed by an ITC complainant alleging patent infringement against one or more ITC respondents.[16] An ITC respondent is typically a foreign manufacturer or a domestic entity that imports products manufactured abroad.[17] Unlike district courts of the United States, however, the ITC does not have jurisdiction over all domestic patent infringement under the Patent Act.[18] By statute, the ITC's "jurisdiction" derives from unfair acts in the importation, sale for importation, or sale after importation of articles that infringe U.S. patents.[19]

14. John Mezzalingua Assocs. v. Int'l Trade Comm'n, 660 F.3d 1322, 1326 (Fed. Cir. 2011).

15. *Id.*

16. *See* 19 C.F.R. §§ 210.9–12 (2011) (governing the filing of a complaint and the institution of an investigation).

17. *See* 19 U.S.C. § 1337(a)(1)(B) (2010) (defining a violation of § 337 as the importation, sale for importation, or sale after importation by owner, importer, or consignee of the subject article).

18. *See* § 1337(a); 35 U.S.C. § 271 (2010).

19. 19 U.S.C. § 1337(a); *see also* Amgen, Inc. v. Int'l Trade Comm'n, 565 F.3d 846, 849 (Fed. Cir. 2009) ("Section 337 assigns to the Commission the authority and obligation to investigate and prohibit importation based on unfair competition derived from patent, trademark, and copyright infringement . . . .").

The ITC's statute further specifies that there must be an "industry in the United States" that conducts a sufficient amount of economic activity related to the patent(s) being asserted to warrant ITC action against infringing imports.[20] In addition to these requirements, an ITC complainant must prove that the relevant patent or intellectual property right at issue is both valid and infringed.[21]

B. ITC EXCLUSION ORDERS GENERALLY

The primary remedy the ITC issues is an exclusion order. Such an order is in rem, meaning it is effective against offending articles of entities over which the courts of the United States might not otherwise have jurisdiction.[22] An exclusion order directs Customs and Border Protection ("CBP") to bar infringing articles from entry into the United States at the port of entry.[23] Thus, at least in theory, enforcement of a limited exclusion order against offending articles is "automatic," meaning the patentee is not required to take additional action to effect enforcement.

An exclusion order can be limited or general. An ITC complainant might seek a limited exclusion order to bar importation of an infringing product of a particular respondent.[24] On the other hand, a complainant might seek a general exclusion order to bar importation of infringing articles regardless of the foreign manufacturer or importer with whom they originate.[25] While the limited exclusion order is considered the default remedy of § 337, a complainant may seek a general exclusion order by making additional proofs.[26] Given the prevalence of the limited exclusion order in ITC practice, many of the practical concerns of ITC remedies arise in this context.

A typical exclusion order, limited or general, might direct CBP to exclude from entry articles "that infringe" or "are covered by" one or more specified claims of a specified patent.[27] The scope of an exclusion order, limited or

20. 19 U.S.C. § 1337(a)(2)–(3).

21. § 1337(a)(1)(B).

22. *See* Sealed Air Corp. v. Int'l Trade Comm'n, 645 F.2d 976, 985 (C.C.P.A. 1981) ("An exclusion order operates against goods, not parties.").

23. 19 U.S.C. § 1337(d)(2).

24. *See id.*

25. Kyocera Wireless Corp. v. Int'l Trade Comm'n, 545 F.3d 1340, 1356 (Fed. Cir. 2008).

26. 19 U.S.C. § 1337(d).

27. *See, e.g.*, Certain Coaxial Cable Connectors & Components Thereof & Prods. Containing Same, Inv. No. 337-TA-650, USITC Pub. 4283, at 1 (Sept. 13, 2011) (General Exclusion Order) (excluding from entry coaxial cable connectors that infringe one or more of claims 1 and 5 of U.S. Patent No. 5,470,257); Certain GPS Devices & Prods. Containing

general, is typically defined by the notice of investigation, which sets out the complainant's key allegations according to the § 337 complaint.[28] If, for example, a patent-based complaint is filed against a respondent's "certain coaxial cable connectors, and components thereof, and products containing the same," these same terms will likely define the notice of investigation and any relief that the ITC ultimately issues at the conclusion of the investigation.[29]

The ITC cannot award monetary damages for past infringement, and thus the relief it gives a successful complainant is meant to be prospective in nature.[30] Indeed, the ITC has recognized that in order for any exclusion order to provide an adequate remedy for violations of § 337, the order must be flexible enough to cover future products that may be different from those presented to the ITC during the evidentiary hearing, but may nevertheless infringe the patent(s) that such an order covers.[31] Otherwise, infringers could make trivial changes to their products and easily sidestep a previously issued exclusion order.[32] Thus, the ITC has repeatedly declined to restrict its exclusion orders to specific models or configurations found to infringe, opting instead for language directed to any articles that infringe the identified patent claims.[33]

Same, Inv. No. 337-TA-602, USITC Pub. 4137, at 1 (Jan. 15, 2009) (Limited Exclusion Order).

28. *See* Certain Silicon Microphone Packages & Prods. Containing Same, Inv. No. 337-TA-629, USITC Pub. 4951, at 17–18 (July 16, 2009) (Comm'n Op.) (adopting the administrative law judge's recommendation to limit the scope of exclusion to silicon microphone packages based on the notice of investigation after complainant argued for exclusion of silicon microphones).

29. Certain Coaxial Cable Connectors & Components Thereof & Prods. Containing Same, Inv. No. 337-TA-650, USITC Pub. 4283, at 1 (Sept. 13, 2011) (General Exclusion Order).

30. *See* Certain Sortation Sys., Parts Thereof, & Prods. Containing Same, Inv. No. 337-TA-460, USITC Pub. 3588, at 474 (Mar. 1, 2003) (Comm'n Op.).

31. Certain Hardware Logic Emulation & Components Thereof, Inv. No. 337-TA-383, USITC Pub. 3089, at 15–16, 32–33 (Apr. 1, 1998) (Comm'n Op.) (footnotes and citations omitted); *see also, e.g.*, Certain Flash Memory Circuits & Prods. Containing Same, Inv. No. 337-TA-382, USITC Pub. 3046, at 17–18 n.37 (June 2, 1997) (Comm'n Op.) ("[Respondent] requested that we craft the order to apply only to the specific models of flash memory chips adjudicated before the administrative law judge. We have not adopted this recommendation, however, because we believe it would [be] too easy to circumvent such an order by simply changing model numbers.").

32. Certain Flash Memory Circuits & Prods. Containing Same, Inv. No. 337-TA-382, USITC Pub. 3046, at 17–18 n.37 (June 2, 1997) (Comm'n Op.).

33. The Commission explained its rationale for this practice in *Certain Hardware Logic Emulation Systems and Components Thereof*:

The ITC's approach is one of presumptive inclusion whereby all infringement is "fenced" in even though the ITC did not (and could not) examine all possible types of infringement.[34] Unless the ITC expressly specifies to the contrary, an exclusion order covers all infringement. The ITC's practice of issuing broadly worded exclusion orders dates back at least forty years.[35] This practice is based, at least in part, on the practice of its sister agency—the Federal Trade Commission ("FTC").[36] The ITC, like the FTC, is entitled to "fence" in certain behavior so long as the remedy is "reasonably related" to the unlawful practices found to exist.[37] Indeed, the Federal Circuit has recognized that the same administrative law principles govern review of remedy determinations of these two Commissions.[38] The ITC's broad remedy practice has gone largely undisturbed since its inception. Indeed, the Federal Circuit recently upheld the ITC's practice of issuing broadly worded

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> [T]he Commission's jurisdiction extends to all models of infringing products that are imported at the time of the Commission's determination and to all such products that will be imported during the life of the remedial order. . . . [T]he central purpose of remedial orders is to ensure complete relief to the domestic industry. An exclusion order covering only specific models of an accused device could easily be circumvented, thereby denying complete relief to the domestic industry.

Certain Hardware Logic Emulation Sys. & Components Thereof, Inv. No. 337-TA-383, USITC Pub. 3089, at 16, 31–32 (Apr. 1, 1998) (Comm'n Op.) (footnotes and citations omitted).

34. Certain Erasable Programmable Read Only Memories, Components Thereof, Prods. Containing Such Memories, & Processes for Making Such Memories, Inv. No. 337-TA-276, 1990 ITC LEXIS 265, at *49 (Aug. 1, 1990) (Comm'n Op.) ("A broad reading of the Commission's cease and desist authority is consistent with the broad interpretation of the Federal Trade Commission's analogous authority to issue cease and desist orders. It has long been established that the Federal Trade Commission's cease and desist authority is not limited to proscribing the precise practices for which a substantive violation has been found.").

35. *See, e.g.*, Convertible Game Tables & Components Thereof, Inv. No. 337-TA-002, at 3 (Apr. 2, 1976) (Exclusion Order) (providing "exclusion from entry into the United States of convertible game tables . . . made in accordance with the claim(s) of U.S. Patent No. 3,711,099").

36. Certain Erasable Programmable Read Only Memories, Components Thereof, Prods. Containing Such Memories, & Processes for Making Such Memories, Inv. No. 337-TA-276, 1990 ITC LEXIS 265, at *49 (Aug. 1, 1990) (Comm'n Op.) (recognizing that "[a] broad reading of the Commission's cease and desist authority is consistent with the broad interpretation of the Federal Trade Commission's analogous authority to issue cease and desist orders").

37. *Id.*

38. *See* Viscofan, S.A. v. Int'l Trade Comm'n, 787 F.2d 544, 548–49 (Fed. Cir. 1986) (applying remedy principles set forth in an FTC case: *Jacob Siegel Co. v. Federal Trade Commission*, 327 U.S. 608 (1946)).

remedial orders where a respondent challenged ITC remedial orders as unconstitutionally vague.[39]

As discussed in the following Section, the breadth of the ITC's remedy practice has resulted in complex appeals to the Federal Circuit, especially as the products subject to ITC investigations increase in complexity. The complexity of these appeals plays a key role in the Federal Circuit's recent decisions on the important issue of standing.

C. THE COMPLEXITY OF ITC EXCLUSION ORDER APPEALS TO THE FEDERAL CIRCUIT

In general, the ITC will issue an exclusion order only if it finds a violation of § 337.[40] A finding of a violation of § 337 is based on, among other things, infringement of a patent for which a domestic industry exists.[41] This means that a respondent challenging an exclusion order must successfully appeal at least one dispositive issue—e.g., the patent's validity, the question of infringement, or the existence of a domestic industry[42]—for each patent claim the exclusion order identifies. By comparison, a complainant challenging an ITC finding that no violation of § 337 exists must gain reversal of *each* finding that supports the ITC's determination of violation for each patent. In other words, while a respondent appealing an exclusion order must simply show that the ITC erred on one dispositive issue for each patent claim identified in the exclusion order, a complainant appealing the non-issuance of an exclusion order must successfully challenge every dispositive issue decided adversely against that complainant.

In recent years, appeals from ITC final exclusion orders have become increasingly complex. Typically, these cases involve multiple patents, multiple asserted patent claims, multiple accused products, multiple respondents, and sometimes even multiple appeals.[43] It is not uncommon, when multiple

39. Ninestar Tech. Co. v. Int'l Trade Comm'n, 667 F.3d 1373 (Fed. Cir. 2012).

40. *See* 19 U.S.C. § 1337(d)(2) (2010).

41. § 1337(a)(2).

42. The question of whether a § 337 violation exists often turns on whether the asserted patent is invalid and whether the ITC respondent infringes the asserted patent. These issues are presented in largely the same manner as they would be in a district court. The violation question also turns on whether the ITC complainant has shown enough domestic activity relating to the asserted patent to justify Commission remedial action—i.e., whether a "domestic industry" exists. § 1337(a)(2)–(3).

43. *See, e.g.*, Certain Coaxial Cable Connectors & Components Thereof & Prods. Containing Same, Inv. No. 337-TA-650, USITC Pub. 4283, at 2–3 (Mar. 31, 2010) (Comm'n Notice of General Exclusion Order, Limited Exclusion Order & Remand Order). In the wake of *Kyocera Wireless Corp. v. Int'l Trade Comm'n*, 545 F.3d 1340 (Fed. Cir. 2008), a trend

patents are involved, to have cross-appeals or companion appeals originating from the same ITC determination.[44] This happens, for example, when a complainant obtains an exclusion order for one of its patents, but is denied exclusion for another of its patents.[45] The complainant then appeals the denial of relief for the patent not granted exclusion, and the respondent appeals the issuance of relief for the patent granted exclusion. Because of timing differences involved in this legal crossfire, the Federal Circuit treats the respondent's appeal and the complainant's appeal as separate appeals.

For example, in the ITC investigation underlying the *Mezzalingua* case discussed Part III, *infra*, the Commission made a final determination in March 2010 regarding four patents asserted in the investigation.[46] The Commission granted exclusion orders for the first two patents, remanded the investigation with respect to the third patent to the Administrative Law Judge for further proceedings, and outright denied an exclusion order for the last patent.[47] The complainant immediately appealed to the Federal Circuit regarding the fourth patent for which the Commission denied exclusion.[48] The remand proceedings before the Administrative Law Judge for the third patent terminated in July 2010, after which the second appeal in the *Mezzalingua* case followed.[49] Significantly, there was no appeal of the Commission's grant of exclusion orders for the first two patents because this case was based on defaulting respondents who did not challenge the allegations made at the Commission. Thus, this case resulted in two separate appeals to the Federal Circuit, but could have resulted in more appeals had the respondents not defaulted.

In addition, the expansive language of § 337(c) invites a broad range of parties to appeal ITC determinations. The statute provides that "*[a]ny person*

among complainants has been to name every possible respondent in the complaint, leading to an increase in the number of parties involved at the ITC.

44. *See, e.g.*, Pass & Seymour, Inc. v. Int'l Trade Comm'n, 617 F.3d 1319 (Fed. Cir. 2010); General Protecht Group, Inc. v. Int'l Trade Comm'n, 619 F.3d 1303 (Fed. Cir. 2010). Both *Pass & Seymour, Inc. v. International Trade Commission* and *General Protecht Group, Inc. v. International Trade Commission* were appeals arising from the Commission's final determination in *Certain Ground Fault Circuit Interrupters and Products Containing Same*, Inv. No. 337-TA-615, USITC Pub. 4146 (Mar. 9, 2009) (Notice of Final Determination).

45. *See, e.g.*, Certain Coaxial Cable Connectors & Components Thereof & Prods. Containing Same, Inv. No. 337-TA-650, USITC Pub. 4283, at 2–3 (Mar. 31, 2010) (Comm'n Notice of General Exclusion Order, Limited Exclusion Order & Remand Order).

46. *Id.*

47. *Id.*

48. John Mezzalingua Assocs. v. Int'l Trade Comm'n, 437 F. App'x 886 (Fed. Cir. 2010).

49. John Mezzalingua Assocs. v. Int'l Trade Comm'n, 660 F.3d 1322 (Fed. Cir. 2011).

adversely affected by a final determination of the Commission . . . may appeal such determination . . . ."[50] Because the issues the ITC decides in any one investigation are numerous, it is likely that some issue or another "adversely affect[s]" every party involved in an investigation. Further complicating matters, under Federal Rule of Appellate Procedure 15, the ITC is the appellee in appeals to the Federal Circuit.[51] As such, the ITC is tasked with defending its own determinations at the Federal Circuit, thus adding an additional party to the complainant-respondent litigation. Usually, one or more parties who have an interest in defending the ITC's determination will intervene in the appeal.[52] Thus, a typical appeal includes the ITC as the appellee, at least one appellant, and at least one intervenor. Given the complexity of ITC appeals and the potential for many litigants to have an interest in intervening in the proceedings, standing becomes a key issue in determining who can appeal an ITC determination to the Federal Circuit.

As mentioned above, the ITC has taken the position that the caption of the investigation defines the scope of its investigation and the subject matter of any resulting exclusion order.[53] For example, if the ITC complainant files a complaint entitled *Certain Doohickeys and Products Containing Same* and the ITC finds infringement of a patent by the subject "doohickeys and products containing same," then the resulting exclusion order would have the same subject matter—i.e., doohickeys and products containing the same.[54] In other words, CBP can enforce the exclusion order against an import that falls within this class of products if that import infringes the patent at issue.[55] Because the § 337 complainant can generally name the investigation however it wants, the potential subject matter of an exclusion order can be very broad. The scope of these matters can be broader than traditional patent litigation in district court practice, where a plaintiff must accuse specific products of

50. 19 U.S.C. § 1337(c) (2010) (emphasis added).

51. FED. R. APP. P. 15(a).

52. FED. R. APP. P. 15(d); *see also, e.g.*, Pass & Seymour, Inc. v. Int'l Trade Comm'n, 617 F.3d 1319 (Fed. Cir. 2010) (discussing three respondent intervenors who each filed their own briefs addressing all the issues on appeal).

53. *See, e.g.*, Certain Biometric Scanning Devices, Components Thereof, Associated Software, & Prods. Containing Same, Inv. No. 337-TA-720, Order No. 10, 2010 WL 4786591, at *2 (Sept. 7, 2010); Certain Automated Mech. Transmission Sys. for Medium-Duty & Heavy-Duty Trucks & Components Thereof, Inv. No. 337-TA-503, USITC Pub. 3934, at 4 (May 2005) (Comm'n Op.).

54. *See* Certain Automated Mech. Transmission Sys. for Medium-Duty & Heavy-Duty Trucks & Components Thereof, Inv. No. 337-TA-503, USITC Pub. 3934, at 4 (May 2005) (Comm'n Op.) ("[T]he scope of the remedy is dependent upon the scope of the investigation, which is determined by the notice of the investigation.").

55. Bartkowski, *supra* note 11, at 7.

infringement.[56] As at least one commentator has observed, this can make it difficult to delineate the scope of appeals from ITC matters.[57]

Moreover, unlike a district court that can issue monetary damages as a remedy for past infringement, the ITC's relief is prospective in nature. This can sometimes cause the focus of the litigation to shift over the course of ITC proceedings based on the types of products an ITC respondent is currently importing or plans to import in the future.[58] In particular, an ITC respondent may change its design in the middle of an investigation, compelling the complainant to prove that both the new and the old designs infringe. Moreover, because the ITC's "jurisdiction" extends to "imminent importation," the parties' efforts can focus on products not yet sold or imported into the United States.[59] As a result, parties are left to examine the anticipated future behavior of the ITC respondent. This prospective relief construct can lead to quasi-hypothetical questions about what products the ITC actually considered and on which products it based its findings. As discussed *infra*, the answer to the standing question depends on the scope of the ITC's remedy.

D. THE STANDING QUESTION: WHAT DOES AN EXCLUSION ORDER COVER?

The scope of an ITC exclusion order is integrally related to whether a losing respondent or a losing complainant has standing to appeal the ITC's determination to the Federal Circuit. In other words, is the losing party at the ITC *injured* by the ITC's determination to *include or omit* a particular patent claim in an exclusion order? More specifically, does a complainant who loses at the ITC have standing to challenge, at the Federal Circuit, an ITC determination *to omit* certain patent claims from an exclusion order? Similarly, does a respondent who loses at the ITC have standing to challenge, at the Federal Circuit, an ITC determination *to include* certain patent claims in an exclusion order? Answers to these questions depend on the circumstances.

Perhaps in response to the growing complexity of § 337 appeals, which have prompted the questions above, the Federal Circuit has issued recent decisions that focus on the case or controversy requirement of Article III

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56. *Id.*

57. *Id.* at 5.

58. *See, e.g.*, Vizio, Inc. v. Int'l Trade Comm'n, 605 F.3d 1330, 1335 (Fed. Cir. 2010) (comparing legacy products being imported when the complaint was filed and work-around products that were being imported at the time of the hearing at the ITC and the appeal to the Federal Circuit).

59. Certain GPS Chips, Associated Software & Sys. & Prods. Containing Same, Inv. No. 337-TA-596, USITC Pub. No. 4133, at 52 (Feb. 2009) (Final Initial Determination).

and its application in the context of exclusion orders. In *Yingbin-Nature (Guangdong) Wood Industry Co. v. International Trade Commission*[60] and *Applica Consumer Products, Inc. v. International Trade Commission*,[61] the court dismissed appeals for failing to meet the case or controversy requirement.[62]

In *Yingbin*, the respondent Power Dekor appealed the ITC's determination in *Certain Laminated Floor Panels*, Inv. No. 337-TA-545, where the ITC issued a general exclusion order directed to articles that infringed the '836 patent and the '292 patent, two utility patents owned by ITC complainant Unilin.[63] Power Dekor challenged the ITC's conclusion of infringement for Unilin's '292 patent and certain claims of Unilin's '836 patent, but did not challenge the ITC's finding of infringement for other claims in Unilin's '836 patent.[64] Notably, Power Dekor was attempting to challenge the ITC's inclusion of the Unilin '292 patent in the general exclusion order by challenging infringement findings for two products of other respondents: the "Lock 7" and "Engagement 2." Importantly, Power Dekor did not challenge the infringement findings with respect to its own products.[65] Apparently, Power Dekor wanted to import products utilizing the "Lock 7" and "Engagement 2" designs that were found to infringe the Unilin '292 patent and was therefore concerned with the collateral estoppel effects of the ITC's infringement findings in future proceedings—for example, if Power Dekor were to present a design-around product for importation.[66]

The court unanimously found Power Dekor's challenge to the '292 and '836 patents moot in light of the finding that there would be no preclusive effect against any future Power Dekor design-around products if the court upheld the Commission's finding of infringement with regard to "Lock 7" and "Engagement 2."[67] Stated differently, the court held that Power Dekor's appeal did not present an actual injury that could be redressed by the Federal

60. Yingbin-Nature (Guangdong) Wood Indus. Co. v. Int'l Trade Comm'n, 535 F.3d 1322 (Fed. Cir. 2008).

61. Applica Consumer Prods., Inc. v. Int'l Trade Comm'n, 2010 WL 8344380 (Fed. Cir. June 23, 2010) (non-precedential order).

62. In both cases, the court raised these issues sua sponte. In *Yingbin*, for example, the court first raised the issue in a letter to the parties on the eve of oral argument asking them to be prepared to discuss whether part of the ITC respondent's appeal was moot. *Yingbin*, 535 F.3d at 1329. The court again raised the issue sua sponte in *Applica* after the case had been fully briefed and scheduled for oral argument. *See Applica*, 2010 WL 8344380, at *1. The *Yingbin* and *Applica* panels had at least one judge in common.

63. *Yingbin*, 535 F.3d at 1331.

64. *Id.* at 1329.

65. *Id.* at 1331–32.

66. *Id.* at 1333.

67. *Id.* at 1332–34.

Circuit because collateral estoppel would not apply to Power Dekor's proposed future products.[68] The court noted that collateral estoppel would not apply to Power Dekor in this case because findings adverse to other respondents would not bind Power Dekor in future proceedings, and that findings adverse to Power Dekor's current products would not necessarily have preclusive effect on Power Dekor's future products.[69] As such, the court found that Power Dekor failed to allege an actual injury and lacked standing to appeal the ITC's findings of infringement with regard to "Lock 7" and "Engagement 2" in the general exclusion order.[70] In reaching its conclusion regarding collateral estoppel, the court noted that Power Dekor's products were subject to exclusion under the ITC's exclusion order directed to Unilin's '836 patent regardless of the outcome for the appeal of the '292 patent. Thus, Power Dekor's appeal did not present an actual injury that the Federal Circuit could redress.

The Federal Circuit had, in prior cases, denied standing to ITC respondents who sought to challenge the ITC's specific factual findings where it found *no violation* of § 337.[71] In these cases, the Federal Circuit found that ITC respondents are not "adversely affected" by the ITC's finding of no violation of § 337; therefore, ITC respondents cannot lodge their own appeal.[72] Rather, these ITC respondents are allowed to intervene in the ITC complainant's appeal and should instead raise their issue as a possible alternate ground for affirming the ITC's finding of no violation. *Yingbin*, however, was arguably the first time the Federal Circuit denied standing to an ITC respondent seeking to import a real product at issue in the investigation even though that product was the product of another respondent.[73] Thus, the *Yingbin* case was a departure from prior precedent.

In *Applica Consumer Products, Inc. v. International Trade Commission*, a complainant appealed from the ITC's determination in *Certain Self-Cleaning Litter Boxes and Components Thereof*, Inv. No. 337-TA-625. The Federal Circuit, in a non-precedential order, dismissed the appeal by successful complainant, Applica, because the complainant lacked standing to challenge a determination of non-infringement of certain claims for respondents Lucky

68. *Id.* at 1334.

69. *Id.* at 1332–33.

70. *Id.* at 1334.

71. *See, e.g.*, Sinochem Modern Envtl. Prot. Chems. (Xi'an) Co. v. Int'l Trade Comm'n, 358 F. App'x 161 (Fed. Cir. 2009); Surface Tech., Inc. v. Int'l Trade Comm'n, 780 F.2d 29 (Fed. Cir. 1985); Am. Tel. & Tel. Co. v. Int'l Trade Comm'n, 626 F.2d 841 (C.C.P.A. 1980).

72. *See Sinochem*, 358 Fed. App'x at 162; *Surface Tech.*, 780 F.2d at 30–31; *Am. Tel. & Tel. Co.*, 626 F.2d at 160.

73. *Surface Tech.*, 780 F.2d at 30.

Litter and OurPet's products that were already excluded by virtue of infringement of another claim in the same patent.[74] More specifically, complainant Applica sought more exclusion by appealing the ITC's determination to omit certain patent claims in the exclusion order. Applica appealed even though the accused products were already subject to exclusion because they infringed other claims from the same patent covered by the same exclusion order.[75] So while complainant Applica had already obtained relief, it sought to obtain broader relief through the inclusion of several more claims than those that the ITC included in that exclusion order. The *Applica* court concluded that this case was governed by *Yingbin* and that complainant Applica lacked standing.[76]

Although non-precedential, *Applica* was a case in which the Federal Circuit held that a complainant was not injured for standing purposes by an ITC determination *to omit* certain patent claims from among the claims identified in the exclusion order. In *Yingbin*, on the other hand, a losing respondent was not injured for standing purposes by an ITC determination *to include* additional patent claims in an exclusion order when the respondent's products were already barred by other patent claims in the exclusion order that had not been appealed. Together, *Yingbin* and *Applica* can be read to stand for the proposition that a party may not appeal a determination affecting only products for which a final determination to exclude has already been made.[77] A complainant may not appeal because that complainant has already obtained exclusion order coverage against the accused product, and a respondent may not appeal because that respondent's product has already been finally excluded. Thus, so long as a complainant has obtained a final exclusion order with respect to at least one of its patent claims, the complainant may not appeal in an attempt to obtain broader coverage by inclusion of more claims in the exclusion order.

Like *Yingbin*, *Applica* was a departure from existing precedent regarding standing, but this time on the ITC complainant's side. Prior to *Applica*, the Federal Circuit had liberally conferred standing on complainants. For example, in *Amgen, Inc. v. International Trade Commission*,[78] the court granted ITC complainant Amgen standing to appeal from the ITC's dismissal of the

74. Applica Consumer Prods., Inc. v. Int'l Trade Comm'n, 2010 WL 8344380, at *1 (Fed. Cir. June 23, 2010) (non-precedential order).

75. *Id.*

76. *Id.*

77. Responsive Brief of Appellee at 24–27, John Mezzalingua Assocs. v. Int'l Trade Comm'n, Appeal No. 2010-1536 (Fed. Cir. Mar. 21, 2011); Brief for Appellants at 20–21, Ninestar Tech. v. Int'l Trade Comm'n, Appeal No. 2009-1549 (Fed. Cir. Dec. 17, 2009).

78. Amgen, Inc. v. Int'l Trade Comm'n, 902 F.2d 1532 (Fed. Cir. 1990).

investigation on jurisdictional grounds, noting that dismissal on jurisdictional grounds is "intrinsically a final determination not to exclude articles from entry."[79] For similar reasons, the Federal Circuit has granted complainants standing to appeal when the ITC modifies its exclusion orders.[80] The Federal Circuit has even recognized that the "any person adversely affected" language in § 337(c) is broad enough to cover non-parties to the ITC investigation who have a sufficient stake in the outcome of the appeal.[81]

In the context of prior precedent, the *Yingbin* and *Applica* standing decisions have implications regarding the proper scope of ITC exclusion orders. The language of an exclusion order is broad in that it covers any and all infringement of the patent claims identified in that order. If the only question impacting standing under the *Yingbin* and *Applica* cases is whether an accused product is excluded on other grounds (i.e., there are unchallenged claims in the exclusion order that will still bar the accused products), then the order must not cover potential future products not considered by the ITC, such as redesigned products. If the order did cover other potential future products, then parties would virtually always have standing to appeal to the Federal Circuit because the accused product would only matter for determining whether a substantive violation exists, not for whether a redressable injury exists for the purpose of determining standing. In other words, a complainant would always be injured by a negative determination on any claim or patent because he would not receive the maximum scope of exclusion, irrespective of the status of the accused products.

III. *MEZZALINGUA*: STANDING TO APPEAL AN ITC DETERMINATION IS A LOW BAR

The Federal Circuit had the opportunity to address many of these standing issues in a recent case, but the court's decision has produced as many questions as it has answers. In October 2011, the Federal Circuit issued its decision in *John Mezzalingua Associates v. International Trade Commission*,[82]

79. *Id.* at 1535.

80. *See, e.g.*, Crucible Materials Corp. v. Int'l Trade Comm'n, 127 F.3d 1057, 1060–61 (Fed. Cir. 1997) (finding that ITC complainant Crucible Materials Corporation properly appealed the ITC's determination to modify an exclusion order in the context of ongoing enforcement proceedings).

81. *See, e.g.*, LSI Computer Sys., Inc. v. Int'l Trade Comm'n, 832 F.2d 588, 590–91 (Fed. Cir. 1987) (noting that the legislative history does not indicate that "Congress did not also contemplate giving standing to appeal to non-parties"); Import Motors, Ltd. v. Int'l Trade Comm'n, 530 F.2d 937, 940 (C.C.P.A. 1975) (finding that appellants "could" be adversely affected if denied the right to participate in the ITC proceedings).

82. John Mezzalingua Assocs. v. Int'l Trade Comm'n, 660 F.3d 1322 (Fed. Cir. 2011).

which addresses the standing requirement on appeal from the ITC to the Federal Circuit. Under legal circumstances similar to those in *Yingbin* and *Applica*, where the court denied standing for appellants, the *Mezzalingua* court found an appellant to have standing to appeal an ITC determination. But, the reasoning for the court's grant of standing in *Mezzalingua* remains uncertain in light of *Yingbin* and *Applica*.

In *Mezzalingua*, the second of two appeals arising from the ITC's determination in *Certain Coaxial Cable Connectors and Components Thereof and Products Containing Same*, Inv. No. 337-TA-650, complainant PPC appealed to the Federal Circuit the ITC's determination that no violation of § 337 occurred with respect to PPC's '539 design patent even though the product accused of infringement was already excluded for infringement of another PPC patent, the '194 utility patent.[83] Citing *Yingbin* and *Applica*, the ITC, as appellee, argued that the previous decisions, particularly the binding *Yingbin* decision, required dismissal of PPC's appeal. The Federal Circuit, however, distinguished *Yingbin* from *Mezzalingua* and did not cite *Applica* in its opinion. The *Mezzalingua* court emphasized that claims in *Yingbin* were held to be moot because of their speculative nature.[84] The concerns regarding the effect of any past ITC infringement findings on product redesign efforts present in *Yingbin*, the court opined, would have been "too hypothetical to confer standing on the respondent to press an appeal that would have no immediate practical effect."[85]

But, the court found that "PPC [was] in a different position."[86] According to the court, even though "the only product . . . found to infringe the '539 design patent was also found to infringe the '194 utility patent[,] PPC's concerns [were] not related to possible future effects of the Commission's decision, as was the case for the appellant in *Yingbin*."[87] Thus, the *Mezzalingua* court found that exclusion of the accused product and the outcome of the appeal did "not moot PPC's interest in obtaining the much broader relief that would be provided by a general exclusion order, which would cover all products deemed to infringe the '539 design patent."[88] The court concluded that complainant PPC did, in fact, have standing because "a

83. A utility patent covers structural and functional features of an article, while a design patent covers ornamental features.

84. *Mezzalingua*, 660 F.3d at 1326.

85. *Id.*

86. *Id.*

87. *Id.* at 1326–27.

88. *Id.* at 1327.

favorable judicial decision could therefore significantly enhance PPC's legal rights with respect to imported [products]."[89]

A. EXPLAINING *MEZZALINGUA* IN LIGHT OF PRIOR CASES

Drawing a legal distinction between the circumstances of *Mezzalingua* and those of *Yingbin* and *Applica* has proven a difficult task. Similar to *Yingbin* and *Applica*, *Mezzalingua* involved the hypothetical that the CBP might determine that a future product presented for importation does not infringe a patent for which an exclusion order had issued, even though that product does infringe a patent for which no exclusion order exists. The court cited this as the driving factor in conferring standing upon PPC to appeal the non-issuance of an exclusion order for PPC's '539 design patent when PPC had already obtained exclusion for its '194 utility patent.[90] The court relied on this reasoning even though complainant/appellant PPC admitted before the ITC that a finding of violation for the '539 design patent would have "little practical significance" because any product that would have infringed PPC's '539 design patent would also have infringed PPC's '194 utility patent.[91] Despite PPC's statement to the ITC that a second exclusion order issued on its design patent would not provide any extra protection, the *Mezzalingua* court proceeded to give PPC the standing to appeal the denial of the second exclusion order anyway. If the criteria for granting standing to appeal an ITC determination is that an actual, redressable injury exist, why then did the court grant standing to a complainant that itself believed potential injury to be a non-issue? Given the legal similarities between *Mezzalingua*, *Yingbin*, and *Applica*, there are few explanations for the seeming contradiction. Given that the only factor cited by the *Mezzalingua* court was present in other cases in which the court had denied standing, one can only speculate as to what distinction the court actually relied on. The following is a discussion of possible distinctions between these cases, which may provide insight as to some factors considered in the court's analysis.

One possible explanation is that the *Mezzalingua* court found a distinction based on the relationship between the patents in question in *Yingbin*. *Yingbin* involved claims of two different patents that were viewed as integrally related—to infringe the claims of one patent necessarily meant that the claims of the other patent would be infringed.[92] *Mezzalingua*, on the other

89. *Id.*

90. *Id.* at 1326–27.

91. *See id.* The court even acknowledged PPC's admission in a footnote before coming to the seemingly opposite conclusion.

92. Yingbin-Nature (Guangdong) Wood Indus. Co. v. Int'l Trade Comm'n, 535 F.3d 1322, 1333 (Fed. Cir. 2008).

hand, involved two patents with related subject matter, but infringement of one would not necessarily implicate the other in any way. Thus, the *Mezzalingua* court could have been distinguishing *Yingbin* based on the attenuated relationship between the claimed subject matter of the two PPC patents at issue in *Mezzalingua*.

Another explanation is the *Mezzalingua* court may have been differentiating Power Dekor's "hypothetical" collateral estoppel concerns in *Yingbin* from PPC's "immediate practical" remedial concerns in *Mezzalingua*.[93] Indeed, *Yingbin* can be read to apply only to the potential scope of collateral estoppel effect of ITC determinations.[94] The *Yingbin* court assessed whether the appealed finding of infringement of Unilin's '292 patent would have a collateral estoppel effect against respondent Power Dekor's potential future products and concluded that it would not.[95] Collateral estoppel effect of ITC infringement findings, the court held, applies only against "articles found by the ITC to infringe and articles that are 'essentially the same,' meaning that the differences between them are merely 'colorable' or 'unrelated to the limitations in the claim of the patent.' "[96] Moreover, the *Yingbin* court observed that respondent Power Dekor would not be bound by factual findings against other respondents in a case involving a general exclusion order because Power Dekor did not have a full and fair opportunity to litigate, before the ITC, infringement issues pertaining to those other respondents.[97] *Mezzalingua*, on the other hand, involved more practical considerations, such as whether an exclusion order directed to PPC's '539 design patent would be enforced against products that would not be covered by the exclusion order directed at PPC's '194 utility patent. So where Power Dekor's concern was with the speculative potential of adverse future

93. *Mezzalingua*, 660 F.3d at 1326 ("We held those concerns about the possible future effects of the Commission's ruling as to the 'lower lip' claims to be too hypothetical to confer standing on the respondent to press an appeal that would have no immediate practical effect.") (summarizing *Yingbin*, 535 F.3d 1322).

94. Collateral estoppel, also known as issue preclusion, protects a litigant from having to re-litigate an issue that has been decided in a prior proceeding. Collateral estoppel applies only if the party against whom estoppel is sought had a "full and fair opportunity" to litigate, if the issue was actually litigated based on the same controlling facts and law, and if the resolution of the issue was essential to the final judgment in the first action. *See* Comair Rotron, Inc. v. Nippon Densan Corp., 49 F.3d 1535, 1537 (Fed. Cir. 1995) (noting that, in order for collateral estoppel to apply, "the party against whom estoppel is sought [must have] had a full and fair opportunity to litigate the issue" in the prior action).

95. *Yingbin*, 535 F.3d at 1334.

96. *Id.* at 1333.

97. *Id.* at 1332–33.

litigation consequences for products Power Dekor had not yet designed, PPC concerned itself only with the existing coverage of its exclusion order.

To the same end, the *Mezzalingua* court may have distinguished *Yingbin* even more simply by considering whether the appellant was a losing complainant, as in *Mezzalingua* and *Applica*, or a losing respondent, as in *Yingbin*. While a losing complainant would concern itself with the "immediate" interest of broader exclusion order coverage, a losing respondent might only be concerned with potential collateral estoppel issues arising from the infringement findings and issuance of an exclusion order against one of that respondent's products. It may be that, unlike an ITC respondent who is only concerned about its rights with respect to the ITC complainant's patent, the complainant is more broadly concerned with its rights against the world of possible importers and/or infringers. This is especially true in the context of a general exclusion order because, unlike a limited exclusion order, a general exclusion order can cover products of non-respondents. Thus, in the case where the respondent's product is subject to exclusion under another patent, a complainant potentially stands to gain or lose much more by denial of exclusion. However, this distinction between the motives for appeal, although not technically contrary to precedent, is inconsistent with the *Applica* non-precedential order because *Applica* actually involved a complainant seeking more exclusion by appealing the ITC's determination to omit certain claims in the issued exclusion order.

Yet another explanation for the apparent discrepancy between *Mezzalingua*, *Yingbin*, and *Applica* is that the *Mezzalingua* court was concerned with the differences in enforcement between exclusion orders directed at design patents and those directed at utility patents. In *Mezzalingua*, the ITC granted complainant PPC's request for a general exclusion order directed to PPC's '194 utility patent but declined to issue relief for PPC's '539 design patent.[98] Even though PPC indicated that the '194 utility patent and the '539 design patent covered the same products, PPC stood to benefit immediately and practically, from an enforcement standpoint, by having an exclusion order directed to PPC's '539 design patent. This is because the infringement analysis for a utility patent, such as PPC's '194 patent, requires claim interpretation that is often technically complex. The infringement analysis for a design patent, on the other hand, involves a simple comparison of ornamental design. Thus, whereas an imported product violating the general exclusion order directed to PPC's utility patent would be difficult to detect,

98. Certain Coaxial Cable Connectors & Components Thereof & Prods. Containing Same, Inv. No. 337-TA-650, USITC Pub. 4283 (July 12, 2010) (Comm'n Notice).

an exclusion order directed to PPC's design patent would allow CBP to easily spot questionable products. With this enforcement emphasis, the court may have recognized that the exclusion order directed to PPC's utility patent would be more difficult to enforce and granted standing to appeal the ITC's determination not to issue a design patent exclusion order as a result.

As is evident, there are several factors that can be taken into account by the Federal Circuit when granting or denying standing to appeal an ITC exclusion order determination. However, given the relatively small body of existing law in the area and the fairly unclear reasoning behind that law, one seeking to explain precisely the rationale going into such a determination is left to hypothesize about what is truly at the heart of that determination.

B. RELATIONSHIP BETWEEN CONSTITUTIONAL STANDING AND STATUTORY § 337(C) STANDING

Though the case law is admittedly underdeveloped and somewhat contradictory, as described *supra*, these cases are the best insight into how the Federal Circuit fits the Constitution's Article III case or controversy requirement with the ITC's statutory standing requirement under § 337(c), which allows "any person adversely affected" to appeal from the final determination of the Commission. While the *Mezzalingua* and *Yingbin* decisions both refer to mootness, the *Applica* court did not address the mootness doctrine, opting instead to decide based on the statutory standing requirement.[99] In a roundabout way, the *Applica* court almost addressed both requirements by characterizing its decision in terms of the "adversely affected" language in the ITC's statute,[100] while also citing to *Yingbin*—a case that focused on Article III—as controlling precedent on standing.[101] Of course, the *Applica* decision is limited in value because it is non-precedential, but prior to these three cases, the Federal Circuit had only approached these questions in terms of the statute's "adversely affected" language, never in terms of Article III constitutional standing.[102]

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99. *See* John Mezzalingua Assocs. v. Int'l Trade Comm'n, 660 F.3d 1322, 1326 (Fed. Cir. 2011); *Yingbin*, 535 F.3d at 1331–32; Applica Consumer Prods., Inc. v. Int'l Trade Comm'n, 2010 WL 8344380, at *1 (Fed. Cir. June 23, 2010) (non-precedential order).

100. *Applica*, 2010 WL 8344380, at *1.

101. *Id.* at *2–3.

102. *See, e.g.*, Sinochem Modern Envtl. Prot. Chems. (Xi'an) Co. v. Int'l Trade Comm'n, 358 F. App'x 161, 162 (Fed. Cir. 2009); Crucible Materials Corp. v. Int'l Trade Comm'n, 127 F.3d 1057, 1060–61 (Fed. Cir. 1997); LSI Computer Sys., Inc. v. Int'l Trade Comm'n, 832 F.2d 588, 591 (Fed. Cir. 1987); Surface Tech., Inc. v. Int'l Trade Comm'n, 780 F.2d 29, 30 (Fed. Cir. 1985); Am. Tel. & Tel. Co. v. Int'l Trade Comm'n, 626 F.2d 841, 842 (C.C.P.A. 1980); Import Motors, Ltd. v. Int'l Trade Comm'n, 530 F.2d 937, 940 (C.C.P.A. 1975), *vacated*, 530 F.2d 940 (C.C.P.A. 1976).

There are several possible relationships between these two requirements. First, it may be that constitutional standing and § 337(c) standing are separate requirements that must be fulfilled in every case.[103] If this is in fact the case, constitutional standing would seem to present the bigger hurdle in appeals from the ITC given the breadth of the "adversely affected" language of § 337(c). Alternatively, Congress may have been intended the "adversely affected" language to create a substantive right to challenge final determinations of the ITC if the appellant can make some threshold showing of the adverse effect.[104] In this case, the "adversely affected" provision would enlarge the potential class of persons who can appeal from the ITC.[105] The Supreme Court has characterized analogous language in the Administrative Procedure Act as Congress's intent to make "agency action presumptively reviewable."[106] Regardless of the relationship between these two standing requirements, it seems fairly clear that if an appellant satisfies the constitutional Article III case or controversy requirement, which includes both mootness and standing, the Federal Circuit will hear the merits of the appeal.

C. THE BEST VIEW OF THE STANDING REQUIREMENT

The importance of the ITC exclusion order process, combined with difficult-to-square precedent in the Federal Circuit, invites discussion about what the optimal view of standing should be both from a legal and public policy standpoint. Standing to appeal the various aspects of the ITC's final determination should be a low bar to clear because the potential impact of the final determination to exclude or not to exclude is broad. Contrary to what the *Applica* decision suggests, ITC complainants should always have standing to appeal the denial of exclusion for a patent claim, even if that

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103. *See* Clarke v. Sec. Indus. Ass'n, 479 U.S. 388, 395 n.7 (1987) ("Congress can, of course, resolve the question [of standing] one way or another, save as the requirements of Article III dictate otherwise.") (internal quotation omitted); *see also* United States v. 8 Gilcrease Lane, 641 F. Supp. 2d. 1, 5 (D.D.C. 2009) (finding that a litigant is required to meet both statutory and constitutional standing requirements); Allied Corp. v. U.S. Int'l Trade Comm'n, 850 F.2d 1573, 1579 (Fed. Cir. 1988) ("Because we hold that this court has not been granted statutory authority to review ITC advisory opinions [under § 337(c)], we need not discuss the 'case or controversy' provision of Article III of the Constitution.").

104. *See LSI*, 832 F.2d at 591; *see also Import Motors*, 530 F.2d at 940 (finding that § 337(c) broadens the class of potential appellants beyond those that were parties to the ITC investigation).

105. *See* Ass'n of Data Processing Serv. Orgs., Inc. v. Camp, 397 U.S. 150, 154 (1970) ("Where statutes are concerned, the trend is toward enlargement of the class of people who may protest administrative action. The whole drive for enlarging the category of aggrieved 'persons' is symptomatic of that trend.").

106. *Clarke*, 479 U.S. at 399.

complainant was granted exclusion for other claims in the same patent or a different patent altogether. As to ITC respondents, they should be granted standing whenever their appeal involves real products that are currently imported or will be imported in the near future. When an ITC respondent's appeal involves nothing more than hypothetical concerns about future litigation proceedings, the Federal Circuit should deny the appellant standing.

1. Standing for Complainants

Notwithstanding the lack of clear guidance on this point, the best view of the standing requirement with respect to complainants after *Mezzalingua* is that an ITC complainant seeking broader exclusion should always have standing to appeal an ITC determination to the Federal Circuit, regardless of whether the ITC has found a violation of § 337. This concern is especially immediate in light of how quickly technology evolves and the frequency with which respondents seek to redesign their products to avoid the scope of previously issued exclusion orders. Because a complainant is "adversely affected" within the meaning of § 337(c) by the ITC denying exclusion of a present or future product that infringes one of its valid patents, that denial essentially provides the complainant with the injury required to show standing. Indeed, this interpretation of the statutory standing requirement is consistent with the legislative history of § 337(c).[107] Both the House and Senate reports indicate that § 337(c) was meant to extend the right to judicial review to complainants as well as "owners, importers, and consignees of subject articles."[108] This approach to the standing issue should remain true even when applying the Article III case or controversy requirement because that ITC complainant always has an interest in obtaining the broadest possible exclusion order against past, present, and future infringing products.[109] So, only when the ITC grants exclusion for all patent claims requested, closing off as much product space as possible for any potentially infringing re-designed products, should the complainant not have standing to appeal an ITC determination to the Federal Circuit.

This broad view of the standing requirement with respect to complainants should hold regardless of whether the patent claim at issue is part of a design patent or a utility patent. All patent claims, design or utility, cover different products. Regardless of the type of claim, an omission of any

107. *See* H.R. REP. NO. 93-571, at 76–78 (1973); S. REP. NO. 93-1298, at 196–97 (1974).

108. S. REP. NO. 93-1298, at 196–97; *see also LSI*, 832 F.2d at 590–92.

109. *See* Ass'n of Data Processing Serv. Orgs., Inc. v. Camp, 397 U.S. 150 (1970) (finding that even harm to a non-economic interest can be an injury for the case or controversy requirement).

patent claim from an exclusion order adversely affects a complainant because that omitted claim has a different scope and may cover products that are not covered by other patent claims included in the exclusion order. The complainant has an immediate and practical concern in obtaining the maximum protection against infringement by importation of both existing products and future products.

The view that the Federal Circuit should grant ITC complainants standing to appeal aspects of ITC determinations liberally also makes practical sense. Given that each patent has a different scope of protection, each patent could, in theory, be enforced against a different product. Seeing as how the denial of an exclusion order for any one patent claim could lead to importation of an infringing product, a complainant suffers injury sufficient for standing. Thus, an ITC complainant has an immediate and practical interest in appealing all adverse aspects of the ITC's determination.

While there are a number of reasons the Federal Circuit should grant ITC complainants standing liberally, it is difficult to reconcile those reasons with *Applica*, where the Federal Circuit denied a complainant standing to appeal an ITC determination. *Applica* involved a complainant seeking more exclusionary relief than the ITC had granted it.[110] And although *Applica* involved independent claims in the same patent, these independent claims had different scope and could cover different products, like the '539 design patent and the '194 utility patent at issue in *Mezzalingua*. Thus, like the complainant in *Mezzalingua*, complainant Applica stood to benefit immediately and practically by a reversal of an ITC determination that would require additional claims to be added to the exclusion order. Hence, at least in principle, both cases involved two different patent rights.

Unlike *Mezzalingua*, though, *Applica* did not involve a requested general exclusion order for a design patent; rather, it involved a limited exclusion order. Is it possible that this distinction between limited and general exclusion orders made the difference? Probably not, given the ITC found no remedy was warranted for the '539 design patent in *Mezzalingua* because it found no violation of § 337.[111] Thus, on appeal in *Mezzalingua*, there was no basis to assume that PPC would have been entitled to a general exclusion order even if the Federal Circuit had reversed the ITC's finding that no

110. Applica Consumer Prods., Inc. v. Int'l Trade Comm'n, 2010 WL 8344380, at *1 (Fed. Cir. June 23, 2010) (non-precedential order).

111. It is typical for the ITC to decline to make a remedy determination when it finds that no violation of § 337 exists.

violation of § 337 occurred with respect to PPC's '539 design patent.[112] Regardless, these differences do not change the fact that a favorable decision on appeal, requiring the ITC to add patent claims to Applica's limited exclusion order, would have significantly enhanced Applica's legal rights with respect to the products of infringing respondents at issue in that case. It appears, therefore, that either the non-precedential dismissal in *Applica* rests on shaky legal grounds or the Federal Circuit judges disagree on the breadth of the Article III case or controversy requirement in ITC appeals. Given the frequency with which these issues arise in appeals from ITC determinations, it is likely the Federal Circuit will provide further guidance on the issue in the near future.

2. *Standing for Respondents*

The Federal Circuit should not confer standing upon respondents quite as easily as it confers standing upon complainants, however. As mentioned previously, a respondent against which the ITC has issued an exclusion order will frequently appeal the ITC determination to issue the exclusion order. ITC respondents should only be able to appeal findings when the ITC has found a violation of § 337 against them.[113] When the ITC finds no violation of § 337 against an ITC respondent, that respondent is not "adversely affected." That respondent should therefore be required to raise any issues decided adversely against it as alternate grounds for affirmance if and when the ITC complainant appeals.

When the ITC finds a violation, the respondent may appeal by challenging any adverse finding pertaining to the patent claims identified in the order. For example, a respondent will often challenge the validity of a patent claim identified in an exclusion order. In other words, the respondent will seek to show that the patent in question should never have issued in the first place. Should the Federal Circuit rule for the respondent, agreeing then that certain claims of a given patent are invalid, the exclusion order becomes unenforceable to the extent it includes those invalid claims. However, if the respondent is not given the opportunity to appeal an exclusion order to the Federal Circuit because of lack of standing, the respondent is also prevented from challenging the validity of the patent. That respondent is "adversely affected" by the remedy issued for an invalid patent, for example, by being

112. On the contrary, a *limited* exclusion order is considered the default remedy for a violation of § 337. While PPC was injured by the ITC's determination that no violation of § 337 existed, PPC was not injured by a remedy determination the ITC declined to make.

113. Sinochem Modern Envtl. Prot. Chems. (Xi'an) Co. v. Int'l, 358 F. App'x 161 (Fed. Cir. 2009); Surface Tech., Inc. v. Int'l Trade Comm'n, 780 F.2d 29, 31 (Fed. Cir. 1985); Am. Tel. & Tel. Co. v. Int'l Trade Comm'n, 626 F.2d 841 (C.C.P.A. 1980).

wrongfully closed out from the product space covered by the invalid patent in connection with possible re-designed products. This not-uncommon scenario demonstrates one form of potential injury to a respondent who is denied standing to appeal the issuance of an exclusion order against one of its products.

A related concern for respondents is the over-enforcement of ITC exclusion orders against their products. CBP does not have regulations in place that make it easy for respondents to communicate with CBP regarding possible enforcement of exclusion orders against their products. At present, CBP enforcement of exclusion orders is less than transparent.[114] Oftentimes, a successful ITC complainant will take an exclusion order to CBP and present its view of the scope of the exclusion order in an ex parte meeting or communication—i.e. without the benefit of the respondent's viewpoint.[115] Because CBP initially hears the complainant's side of the story only, respondents are at risk of over-enforcement of the exclusion order against its products. For example, in more than one instance, CBP has enforced an exclusion order against their product that the ITC has subsequently indicated is not covered by that exclusion order.[116] It is possible that the *Yingbin* court did not fully appreciate this possibility. This is simply the nature of CBP enforcement at present. Given the not so hypothetical possibility of wrongful enforcement of exclusion orders against legitimate products, a respondent should be allowed to challenge any adverse aspect of an ITC determination that supports an exclusion order in an appeal to the Federal Circuit.

The Federal Circuit should grant respondents standing liberally, regardless of whether a respondent appeals some, rather than all, grounds for exclusion of its product. The court's decision in *Yingbin*, for example, suggests that Power Dekor's decision to appeal infringement findings for one of Unilin's asserted patents, but not both, precluded Power Dekor's ability to qualify for standing to challenge the Unilin patent it elected. This should not be the case. An appellant's choice of issues to raise on appeal should not determine whether that appellant has standing to prosecute those issues it selected to present to the appeals court. The standing injury at issue should be determined at the time the ITC issues its final determination, not by

114. Bartkowski, *supra* note 11, at 4.

115. *Id.*

116. *See, e.g.*, Certain Coaxial Cable Connectors & Components Thereof & Prods. Containing Same, Inv. No. 337-TA-650, USITC Pub. 4283, at 2 (Feb. 9, 2012) (Advisory Op.) (finding that a product of a non-respondent is not covered by a general exclusion order); Certain GPS Devices & Prods. Containing Same, Inv. No. 337-TA-602, USITC Pub. 4137, at 4–5 (Apr. 20, 2010) (Advisory Op.) (finding a product of a non-respondent is not covered by a limited exclusion order).

strategic litigation decisions following the ITC's determination. Indeed, the ITC's statute sets forth that "[a]ny person adversely *affected by a final determination of the Commission*" may appeal.[117] The "any person adversely affected" language of § 337(c) is broad. As such, the Federal Circuit should also broadly apply standing to appeal. Given Congress's inclusion of this provision, the Federal Circuit's approach should be one of presumptive standing.[118]

Appeals from ITC determinations to the Federal Circuit do not ask for advisory opinions, nor do they involve purely hypothetical scenarios. These appeals involve real businesses, real remedies, real products, and immediate concerns. This is evidenced by CBP and the ITC's increased enforcement activity over the past few years regarding products not in existence when the ITC remedy was issued. The Federal Circuit should not treat these appeals as mere advice or hypothetical scenarios.

3. Potential Negative Implications of Liberal Standing Grants

Notwithstanding the reasons to grant standing liberally, granting potential appellants broad standing rights will also have some negative implications. Essentially, litigation about the reach of ITC exclusion orders will continue to be complex and will involve multiple parties. ITC patent appeals will continue to be substantially more complex than their district court counterparts. And, as a result, this will likely continue to frustrate litigants as well as the Federal Circuit. Nevertheless, the court's preference for tidy appeals from ITC proceedings should yield to the right of litigants to have the Federal Circuit decide the merits of their controversies with respect to present and future importation. Indeed, it should be relatively easy for litigants (and non-litigants) to show that they are "adversely affected" by an ITC exclusion order and therefore entitled to appeal the ITC's determination to the Federal Circuit. Nevertheless, the "adversely affected" language of § 337(c), as interpreted by the Federal Circuit before the *Yinghin* decision, provides enough of a gatekeeping function to ensure judicially efficient use of the Federal Circuit in appeals from the ITC.

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117. 19 U.S.C. § 1337(c) (2010) (emphasis added).

118. *See* Clarke v. Sec. Indus. Ass'n, 479 U.S. 388, 399 (1987) ("We recognized the presumption in favor of judicial review of agency action, but held that this presumption is 'overcome whenever the congressional intent to preclude judicial review is fairly discernible in the statutory scheme.' ") (internal quotation omitted); LSI Computer Sys, Inc. v. Int'l Trade Comm'n, 832 F.2d 588, 591 (Fed. Cir. 1987); Import Motors, Ltd. v. Int'l Trade Comm'n, 530 F.2d 937, 940 (C.C.P.A. 1975), *vacated*, 530 F.2d 940 (C.C.P.A. 1976) (finding that § 337(c) broadens the class of potential appellants beyond those who were parties to the ITC investigation).

If the Federal Circuit does not grant standing liberally, there will be less certainty regarding the scope of exclusion orders issued by the ITC. The robust appeal process envisaged by the broad "any person adversely affected" language of § 337(c) provides for exclusion orders that are more fully vetted before the federal government commits taxpayer resources to the administrative costs of exclusion order enforcement. Moreover, without broad standing, many of the issues that would be decided on appeal from the ITC would instead be decided in the enforcement context based on CBP actions. The disadvantage of this possibility is that some CBP actions can only be challenged in the Court of International Trade ("CIT"), which does not have the same expertise in dealing with complex patent issues as the ITC does. Thus, not only does the involvement of the CIT add a redundant (and some would say unnecessary) layer of judicial review, the involvement of the CIT also adds some unpredictability.

An immediate appeal to the Federal Circuit from the ITC, where the ITC is involved as the appellee and where parties and non-parties alike can challenge various aspects of the ITC's final determination, provides the most certainty in an uncertain world of exclusion order enforcement. Thus, the Federal Circuit should grant standing liberally. Not only is this approach consistent with the language of § 337(c) and its legislative history, but it will likely lead to less litigation in the long-run over enforcement issues and is therefore consistent with the policy objectives of saving government resources.

IV. CONCLUSION

Although some developments involving standing to appeal ITC determinations to the Federal Circuit have recently called the scope of ITC orders into question, the *Mezzalingua* decision clarifies that § 337 complainants have a real interest in obtaining the broadest possible exclusion against future products of respondents or products other than those considered by the ITC, even if the accused products are already subject to a final exclusion. The court's reliance on possible future infringement as sufficient to confer standing on PPC reaffirms the ITC's view that its orders broadly cover infringement of the subject patent. After *Mezzalingua*, it seems fairly clear that ITC complainants seeking a broader exclusion order should always have standing to appeal to the Federal Circuit, even if the accused product has already been finally excluded for infringement of another patent claim or under a different exclusion order.

The Federal Circuit should also grant respondents standing liberally, though not quite as liberally, given respondents' interest in minimizing impediments to importation of their products. The certainty gained by

allowing challenges to broad and potentially market-altering ITC determinations to proceed immediately following the ITC's investigations outweighs concerns about the complexity of these appeals. Given the frequency with which standing issues arise and the complexity of technologies for disputed products, which often involve many entities' cooperation to make a single product, it is likely that the Federal Circuit will speak again on this issue in the near future—this time with more clarity.

GOVERNING BAD BEHAVIOR BY USERS OF MULTI-SIDED PLATFORMS

David S. Evans†

ABSTRACT

Multi-sided platforms such as exchanges, search engines, social networks, and software platforms create value by assembling and serving communities of people and businesses. They generally solve a transaction problem that prevents agents from coming together to exchange value. An essential feature of these platforms is that they promote positive externalities between members of the community. But as with any community, there are numerous opportunities for people and businesses to create negative externalities, or engage in other bad behavior, that can reduce economic efficiency and, in the extreme, lead to the tragedy of the commons. Multi-sided platforms, acting selfishly to maximize their own profits, often develop governance mechanisms to reduce harmful behavior. They also develop rules to manage many of the same kinds of problems that beset communities subject to public laws and regulations. They enforce these rules through the exercise of property rights and, most importantly, through the "Bouncer's Right" to exclude agents from some quantum of the platform, including prohibiting some agents from the platform entirely. Private control is likely to be more efficient than social control (through laws and regulation) in dealing with negative externalities on platform communities because the platform owner can monitor bad behavior more closely and deal with this behavior more expeditiously than a public regulator. Therefore, the courts and antitrust authorities should exercise caution in finding anti-competitive exclusion when that exclusion is conducted as part of a private governance mechanism for dealing with bad behavior of some platform users that harm other users.

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I. INTRODUCTION

If you win an auction on eBay but do not get the good, or the good is not what was advertised, you can complain to the e-commerce site in addition to giving the merchant a low rating. The site may decide to punish the merchant, including prohibiting them from ever selling again on eBay. Merchants receive protections too. Consumers are required to pay for any item they win in an auction and can bid only if they intend to buy the item that they win. Among other things, these rules prohibit consumers from

bidding in several auctions for similar items and then only paying for the cheapest item they have won.[1] Consumers that have too many unpaid items can lose their buying privileges.[2] eBay has a system that governs bad behavior by the consumers and merchants that use its website. Many other businesses that are multi-sided platforms, like eBay, also have governance systems for dealing with bad behavior that creates negative externalities[3] across platform participants. This Article examines these governance systems and explores the relationship between the public and private control of negative externalities.

Multi-sided platforms create value by helping two or more different types of users, who could benefit from getting together, find and interact with each other, and exchange value.[4] They include software platforms (e.g., Apple's iOS), financial exchanges (e.g., NASDAQ), search engines (e.g., Microsoft's Bing), social networks (e.g., LinkedIn), shopping malls (e.g., Water Tower Place in Chicago), advertising-supported media (e.g., CNN), and e-commerce sites that connect businesses and shoppers (e.g., Amazon).[5] Multi-sided platforms solve a transaction problem[6] that prevents these different types of users from getting together on their own to exchange value. There are positive externalities between the multiple types of users. Platforms provide

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1. For guidance relating to the rules for buyers and sellers on eBay, *see Rules & Policies*, EBAY, http://pages.ebay.com/help/policies/overview.html (last visited Aug. 1, 2011).

2. For eBay's policies on unpaid items *see Unpaid Item Policy*, EBAY, http://pages.ebay.com/help/policies/unpaid-item.html (last visited Apr. 18, 2012).

3. Externalities are costs and benefits that agents impose on each other and are not transmitted through the price system. Generally, externalities involve a lack of direct agreement between the agents to bear the cost or provide the benefit and a lack of direct compensation for bearing costs or providing benefits. Negative externalities, such as air pollution and barking dogs, involve costs. Positive externalities, such as restoring historical buildings, researching new technologies, and pursuing education, involve benefits. *See* N. GREG MANKIW, PRINCIPLES OF ECONOMICS 204–07 (3d ed. 2004).

4. *See* Bernard Caillaud & Bruno Jullien, *Chicken and Egg: Competition Among Intermediation Service Providers*, 34 RAND J. OF ECON. 309, 309–310 (2003); Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. OF THE EUR. ECON. ASS'N 990, 990 (2003).

5. *See generally* David S. Evans, *Some Empirical Aspects of Multi-sided Platform Industries*, 2 REV. OF NETWORK ECON. 191 (2003); DAVID S. EVANS & RICHARD SCHMALENSEE, CATALYST CODE: THE STRATEGIES BEHIND THE WORLD'S MOST DYNAMIC COMPANIES (2007); Thomas Eisenmann, Geoffrey Parker & Marshall W. Van Alstyne, *Strategies for Two-Sided Markets*, 84 HARV. BUS. REV. 92 (2006).

6. As Rochet & Tirole observe, the inapplicability of the Coase Theorem is a necessary condition for the existence of a multi-sided platform. Jean-Charles Rochet & Jean Tirole, *Two-Sided Markets: A Progress Report*, 37 RAND J. ECON 645, 649 (2006). When the Coase Theorem holds, individual users would be able to engage in value-maximizing exchange directly. *See* Ronald Coase, *The Problem of Social Cost*, 3 J. OF L. & ECON. 1 (1960).

ways to promote these positive externalities and thereby create value for the community of users they serve.[7]

Whenever people and businesses get together, and in any community, there are many opportunities for people and businesses to behave badly and to thereby generate negative externalities. This bad behavior can reduce economic efficiency and in the extreme lead to the tragedy of the commons.[8] Multi-sided platforms such as eBay develop governance systems to reduce this bad behavior and minimize negative externalities. This Article shows that multi-sided platforms develop systems of rules and penalties to manage many of the same kinds of problems that communities subject to public laws and regulations face. These platforms enforce such rules by exercising their property rights to exclude users from the platform. In some cases, the rules and penalties imposed by the platform are similar to, and in some cases close substitutes for, rules and penalties adopted by a public regulator.

Private control is likely to be more efficient than social control[9] in dealing with negative externalities in platform communities. The platform owner can monitor bad behavior more closely and deal with this behavior more quickly than can a public regulator. Multi-sided platforms face antitrust complaints concerning reductions in service or denial of service by the platform. This Article argues that the courts and antitrust authorities should exercise caution in assessing these claims when the exclusion at issue is related to platform governance for dealing with bad behavior. It proposes a three-step test for anti-competitive exclusion in these cases in which the burden shifts to the complainant when the platform has engaged in exclusion as part of an established internal governance system.

Despite the pervasiveness of private governance systems for bad behavior, there is little research on the topic and none that examines the public policy issues addressed in this paper. Rochet and Tirole were the first to identify the role of the platform as a regulator in their seminal paper on two-sided platforms.[10] Boudreau and Hagiu present a detailed analysis of platform regulation and highlight the fact that platforms leverage a wide variety, and nuanced set, of instruments to maximize value.[11] However, they treat all non-price instruments used by platforms as a form of regulation for

7. *See* David S. Evans & Richard Schmalensee, *The Industrial Organization of Markets with Two-Sided Platforms*, 3 COMPETITION POL'Y INT'L 151, 154 (2007).

8. *See generally* Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

9. "Social control" refers to the enforcement of public laws and regulations.

10. Rochet & Tirole, *supra* note 4. *See also* Evans & Schmalensee, *supra* note 7, at 163.

11. *See* Kevin J. Boudreau & Andrei Hagiu, *Platforms Rules: Multi-Sided Platforms as Regulators*, *in* PLATFORMS, MARKETS, AND INNOVATION 163 (Annabelle Gawer ed., 2009).

market failures and consider a multitude of strategies for addressing positive and negative externalities. This Article focuses narrowly on the existence of negative externalities among platform users and the use of governance systems to deal with this bad behavior. It shows that these practices are analogous to the governance systems for communities, clubs, and other similar entities.

The analysis here is loosely related to the framework put forward by Strahilevitz.[12] He argues that property rights include several subordinate rights that enable private businesses to deal with information asymmetries and examines the extent to which private property rights and public governance systems are substitutes. This Article adopts his framework of subordinate property rights but then examines how these rights facilitate the development of private governance systems for multi-sided platforms that, like polities, must govern a community of members who may interact positively or negatively with each other.

The governance of bad behavior among members of platform communities is a worthy subject for several reasons.

First, although multi-sided platforms have existed for thousands of years, they are becoming an increasingly important part of the fabric of the economy. The development of the Internet has facilitated the creation of these platforms and some of these platforms have become global businesses quite rapidly. For example, Facebook, which started in 2004, has more than 845 million active monthly users worldwide,[13] integrates more than 7 million applications and websites,[14] and had advertising revenue in 2011 of more than $3.1 billion.[15] Understanding key aspects of how these platforms work helps in numerous contexts ranging from business to litigation.

Second, as shown below, many of these platforms have developed private governance regimes. These private systems include rules, standards, detection, penalties, adjudication, and other elements. They apply to significant portions of the world's population as a result of the global growth of these platforms. For example, most businesses have websites that are indexed by Google and many people have Facebook pages. Both of these platforms have private governance systems that among other things can expel users from the platform for violations.

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12. Lior Strahilevitz, *Information Asymmetries and the Rights to Exclude*, 104 MICH. L. REV. 1835, 1838 (2006).

13. Facebook, Inc., Registration Statement (Form S-1), at 1 (Feb. 1, 2012), *available at* http://sec.gov/Archives/edgar/data/1326801/000119312512034517/d287954ds1.htm.

14. *Id.* at 75.

15. *Id.* at 50.

Third, the ability of platforms to enforce rules concerning negative externalities rests on being able to penalize and ultimately exclude members of the community. That naturally leads to disputes that sometimes end up before courts or regulatory authorities. These issues arise particularly when penalties are levied against platform users that provide services that compete, or might compete, with those provided by the platform. Many of the current antitrust complaints against Google, for example, involve companies that protest that their businesses have been harmed as a result of reductions in their search ranking and that Google gives preferential treatment to its own vertical search or price-compensation services.[16] Understanding the role of rules in policing negative externalities can help distinguish pro-competitive from anti-competitive business practices of platform owners.

After providing a brief introduction to multi-sided platforms, Part II situates the governance of negative externalities in the larger set of practices in which multi-sided platforms engage to maximize the value they generate for their communities as well as for themselves in the form of profits. Part III describes sources of negative externalities and relates the problems faced by multi-sided platforms to polities as well as other businesses that must deal with negative externalities created by their customers. Part IV examines the governance methods platforms have developed to manage these problems. It draws on research concerning the business practices of multi-sided platforms in a diverse set of industries and over time. Part V provides detailed examinations of four economically significant industries that highlight platform governance: social networks, stock exchanges, search engines, and software platforms. Part VI analyzes the legal and policy issues that arise from disputes involving platform governance. It considers the distinction between efficient regulation of negative externalities and anti-competitive exclusion as well as the use of social versus private control over negative externalities in platform communities.

16. See Leo Cendrowicz, *The E.U. Probe: Is Google Rigging Its Search Results?*, TIME, Dec. 2, 2010, *available at* http://www.time.com/time/business/article/0,8599,2034138,00.html; *Companies Ask EU Commission To Step in On Google Search Ranking Complaint*, ITPROPORTAL (Feb. 24, 2010), http://www.itproportal.com/2010/02/24/companies-ask-eu-commission-step-google-search-ranking-complaint/; Claire Cain Miller, Texas Probes Google on Ranking of Search Results, N.Y. TIMES, Sept. 3, 2010, *available at* http://www.nytimes.com/2010/09/04/technology/04google.html?adxnnl=1&adxnnlx=1314113487-4SfkO0V/SuFxNfcRMdHkbQ; *Kinderstart Sues Google Over Lower Page Ranking*, REUTERS, Mar. 19, 2006, *available at* http://www.usatoday.com/tech/news/2006-03-19-google-kinderstart_x.htm.

II. MULTI-SIDED PLATFORM STRATEGIES FOR INCREASING VALUE

eBay creates value through the well-known process of exchange. An individual finds an antique sewing machine in their attic but places little value on it. Another individual collects antique sewing machines. eBay provides a platform for those two individuals to find each other and make a trade. The collector pays money to the sewing machine owner and the collector gets the sewing machine. They are both better off as a result. The sewing machine owner could have sold his machine to an antique store and the collector could have gone to antique stores to find the sewing machine. The e-commerce platform can provide a more efficient means of commerce in antique sewing machines because it can aggregate the demand of many antique sewing machine owners and many buyers and help bring them together to engage in trades.

All multi-sided platforms exhibit the same basic features that we see with eBay. Although platforms can have more than two distinct groups of users,[17] it is helpful to describe these basic features for a two-sided platform.

First, the platform brings together two types of users that can generate value by coming together. For example, a platform might bring together a man and a woman who are looking for companionship, a sender and receiver of money, a mobile software application developer and a mobile phone user, a search engine user and an advertiser, or many other combinations. These two types of users have interdependent demand functions for platform services in the sense that the demand by members of one group for the platform depends positively on the ability to access and engage in value exchange with members of the other group.[18]

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17. Facebook, for example, is a four-sided platform. It is a communications platform for senders and receivers of information. This communications platform is also open to advertisers who want to reach the people that are using Facebook to communicate with each other. It is further made available to entrepreneurs who develop software applications—such as social games—that run on Facebook. There are interdependencies among these four groups of economic users. Facebook, Inc., Registration Statement, *supra* note 13, at 1.

18. The two types of users do not necessarily need to value each other. It is sufficient that it is possible to create net value by putting them together. A company may value presenting advertising to a consumer but the consumer may be indifferent to the advertising or even willing to pay to avoid it. So long as the value of presenting advertising to the consumer is greater than the cost to the consumer of receiving it, there are potential gains to trade. The role of a platform for advertising-supported media is to "pay" the consumer to be exposed to advertising by providing content. In effect, the media platform owner uses some of the money that the advertiser is willing to pay to reach a user to fund content creation that incentivizes users to be exposed to advertising in return for "free" media content.

Second, the platform provides a number of services to reduce the transactions costs for these users to come together and to exchange value. Those services could include facilities to search and match users, to figure out exchange values, and to settle transactions. A typical financial exchange, for example, helps agents find counterparties to a trade and provides facilities for them to consummate a trade in addition to many other complementary services.

Third, the platform owner maximizes profit by choosing prices and other strategic variables that recognize the interdependencies between the two groups of users. The economic literature has focused on pricing policies.[19] The profit-maximizing prices must solve a coordination problem between the multiple sides. A group of users will usually place no value on a platform unless one or more of the other groups of users are also on the platform. The profit-maximizing prices may be at or below marginal cost, and may be zero or negative, and therefore reflect a type of subsidy to one side.[20] (The social welfare maximizing prices have the same characteristics, although there is no guarantee that the privately and socially optimal prices will coincide.[21])

In practice, multi-sided platforms use a wide variety of mechanisms to generate value for platform users and to structure how much net value each group of users receives.[22] Platforms simultaneously determine how to maximize the overall value of the platform for the users and the allocation of this value among both user groups and the platform owner. Slicing the pie differently results in bigger or smaller pies because of the interdependencies between the groups. The platform owner therefore needs to figure out how to slice the pie in order to make the pie as big as possible.

This Part describes how multi-sided platforms maximize and allocate value and thereby provides a framework for understanding the role of governance systems in this process. Section II.A describes the set of tools that platforms have available to them. Section II.B shows how these tools are

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19. *See, e.g.*, E. Glen Weyl, *A Price Theory of Multi-Sided Platforms*, 100 AM. ECON. REV. 1642, 1649–54 (2010) (discussing, in part, various pricing models as they relate to network platforms).

20. *Id.* at 1652; Jean-Charles Rochet & Jean Tirole, *supra* note 4, at 991, 992.

21. The privately optimal prices set by a multi-sided platform may differ from the socially optimal prices if the platform sets prices too high and output too low. But it may also select a pricing structure that does not solve the coordination problem between the groups of users as efficiently as a social planner would. *See* Alexander White & E. Glen Weyl, *Insulated Platform Competition* 10, 19, 29 (NET Inst. Working Paper No. 10-17, 2011), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1694317.

22. *See* EVANS & SCHMALENSEE, *supra* note 5, at 13–16; Eisenmann, Parker & Van Alstyne, *supra* note 5, at 3–7; Boudreau & Hagiu, *supra* note 11, at 175.

used to create value and in particular to generate positive externalities. Section II.C examines the role of value distribution in solving the coordination problem.

A. THE PLATFORM TOOLKIT

Multi-sided platform businesses have a number of tools for solving coordination problems that generate value for users. To begin with, they can devise a platform design that facilitates the interaction of the different types of users. YouTube, for example, recognized a latent demand for online video sharing. To meet this demand it designed a software and hardware platform that enabled people to upload and view videos. It included features that helped people who uploaded videos to find an audience and helped people who wanted to view videos to find ones they would enjoy.[23]

Platforms also provide specific packages of products or services to each type of user to facilitate coordination. As with a single-sided business, the platform has to decide on the optimal combination of product attributes and price. The difference in the case of a multi-sided platform is that offerings that induce users on one side to join the platform and interact often provide value to the users on the other side.[24] Software platform designers frequently provide software developers with software developer kits (SDKs) and other assistance to facilitate the efficient development of software that works on the platform.[25] End users benefit from those quality enhancements indirectly.

Prices are an important element of the toolkit for solving coordination problems. The platform may charge users fees for access to and use of that platform. Those prices can be adjusted to achieve an optimal combination of users, and intensity of use, given their demands. That may entail having a higher incremental profit margin from one side than the other. It also may lead to implicit subsidies to some or all users on one side. OpenTable, for example, charges restaurants for participating in its platform and a fee for each reservation made through the platform; individual patrons can make

23. *See* Glenn Chapman, *YouTube Redesigns Website to Keep Viewers Captivated*, AFP (Mar. 31, 2010), http://www.google.com/hostednews/afp/article/ALeqM5jfGfKKsiwbxNv8XoUbm8ZlRZZWyw (listing design features such as personalized viewing recommendations and modified playlist tools).

24. *See* Mark Armstrong, *Competition in Two-Sided Markets*, 37 RAND J. ECON. 668, 668 (2006); Rochet & Tirole, *supra* note 6, at 659.

25. *See, e.g.*, *SDKs & Tools – Facebook Developers*, FACEBOOK, http://developers.facebook.com/docs/sdks (last visited Feb. 27, 2012); *iOS Dev Center – Apple Developer*, APPLE, https://developer.apple.com/devcenter/ios/index.action (last visited Feb. 27, 2012); *Microsoft SDKs*, MICROSOFT, http://msdn.microsoft.com/en-us/dd299405 (last visited Feb. 27, 2012); *SDKs and Downloads*, PAYPAL, https://cms.paypal.com/us/cgi-bin/?cmd=_render-content&content_ID=developer/library_download_sdks (last visited Feb. 27, 2012).

reservations and access other additional services such as reviews, directions, and restaurant suggestions for free.[26] OpenTable presumably decided that in order to coordinate the demands of restaurants and consumers it needed to offer services free to patrons to attract enough consumers to make the platform valuable to restaurants.

Finally, and a central subject of this Article, platforms can develop and employ governance systems that regulate the actions of participants. These systems can rely on implicit or explicit contracts, detection mechanisms, and penalties. Governance systems facilitate coordination and generate value for users by preventing some users from reducing and possibly destroying the value of the platform. OpenTable, for example, can prevent people who have a record of not showing up for restaurant reservations from making further reservations. That increases the value of the platform to restaurants. But it also increases the value of the platform to users since, if OpenTable was an unreliable source of reservations, restaurants might not use it, and a valuable service might therefore not be available to consumers.

B. VALUE CREATION AND EXTERNALITIES

These tools are important for achieving the fundamental economic purpose of a platform: to release value by bringing users together. eBay succeeded in doing this by creating a website where sellers could post products for sale, developing an auction mechanism that allowed buyers to bid for those products, providing a convenient payment mechanism that enabled sellers to receive funds from buyers, implementing a rating system that enabled buyers to communicate information about the sellers they dealt with to other buyers, and devising rules to ensure the integrity of the bidding and selling process. One study of eBay found that the buyers obtained consumer surplus that averaged about $4 per purchase and totaled more than $7 billion in 2003.[27] The sellers earned surplus as well, equal to the difference between what they netted from buyers and their personal valuations of the goods.[28]

Platforms rely on the tools described above to maximize the value they create for users overall subject to various constraints, including costs. A core challenge is enabling users that can engage in mutually beneficial exchanges

26. *See* Farhad Manjoo, *As OpenTable Booms, Who Gets the Dough?*, FAST COMPANY (Apr. 1, 2011), http://www.fastcompany.com/magazine/155/as-opentable-booms-who-gets-the-dough.html.

27. *See* Ravi Bapna, Wolfgang Jank & Galit Shmueli, *Consumer Surplus in Online Auctions*, 19 INFO. SYS. RES. 400, 400 (2008).

28. *Id.* at 405.

to find each other. That is partly addressed through platform design. Online dating sites such as eHarmony rely on detailed questionnaires to find matches for people and then have a process through which people can narrow their searches.[29]

The platform also needs to ensure that there are "high-quality" matches in which the users can split significant value. For many multi-sided platforms, the likelihood of high-quality matches increases with the number of participants. To develop thicker markets, platforms use pricing and other tools to drive participation and positive feedback effects. Some stock exchanges, for example, provide subsidies to providers of liquidity.[30] More liquidity providers attract more liquidity takers that, in turn, drive more liquidity providers.

C. VALUE DISTRIBUTION AND COORDINATION

As these examples illustrate, value creation is intimately connected to value distribution. A platform has to secure the participation of each side in sufficient numbers to generate value. That involves solving a coordination problem. Members of each group of users would benefit from being on the platform but they will not join the platform unless enough members of the other groups join as well.

The economic literature on multi-sided platforms demonstrates the role of the pricing structure and other strategic decisions by the platform in solving this coordination problem.[31] By tilting the pricing structure so that one side contributes relatively more incremental margin and the other side contributes relatively less incremental margin, the platform can potentially entice enough members of each group to join.[32] Once they do, positive feedback effects can fuel growth.

These economic models focus, for simplicity, on the prices that agents are charged.[33] More generally, however, platforms provide net value to members of each group where that net value is the difference between the

29. *See eHarmony Membership Options*, EHARMONY, http://www.eharmony.com/singles/servlet/about/membership (last visited Feb. 22, 2012).

30. *See* NYSE Euronext, Annual Report (Form 10-K), at 22 (Feb. 28, 2011), *available at* http://www.sec.gov/Archives/edgar/data/1368007/000095012311019827/y86275e10vk.htm.

31. *See* Daniel F. Spulber, *Solving the Circular Conundrum: Communication and Coordination in Internet Markets*, 104 NW. U. L. REV. 537, 538–39 (2010); Caillaud & Jullien, *supra* note 4, at 322.

32. *See* Wilko Bolt & Alexander F. Tieman, *Heavily Skewed Pricing in Two-Sided Markets*, 26 INT'L J. INDUS. ORG. 1250, 1250–51 (2008); Rochet & Tirole, *supra* note 6, at 659; Marc Rysman, *The Economics of Two-Sided Markets*, 23 J. OF ECON. PERSP. 125, 130 (2009).

33. *See* Rysman, *supra* note 32, at 129.

total value received and the total cost incurred by that member. Platforms solve the coordination problem through adjusting what users receive[34] as well as how much they pay. Apple provides many features on its phones that users find attractive. It also provides software developers with an operating system, tools, and a store for selling applications that developers find appealing.[35]

In determining the relative benefits realized by each group of agents, the platform necessarily makes decisions that allocate benefits between different groups of users. All else equal, charging one group less means charging another group more. The point extends beyond pricing. Platforms make design and other decisions that shift the relative benefits between the two sides. Shopping malls, for example, sometimes place anchor stores that attract the most shoppers as far apart as possible, put up and down escalators far apart, and make other physical design decisions to increase the foot traffic in front of stores.[36] Malls therefore convey an added benefit on the stores who pay for space, while imposing some costs on shoppers who get in for free.[37] The stringency of the governance system for different types of users, including the penalties imposed, determines, in part, the distribution of value.

III. BAD BEHAVIOR AND PLATFORM COMMUNITIES

A negative externality arises when economic agent A imposes costs on economic agent B that agent B has neither agreed to bear nor has received compensation for.[38] These costs arise in many ways and include many forms of behavior that range from the seemingly innocuous to the obviously egregious, as the following examples illustrate.

- At some point when you enter a highway you increase congestion and impose costs on all other drivers.
- A fisherman increases the likelihood that the fishing grounds will be depleted and therefore imposes costs on other fishermen.
- A factory emits smoke that imposes costs on many people who live in the surrounding area.

34. That is, the platform may decide to shift the demand schedule for a group of users to the right or the left by providing more or fewer product attributes that these users value.

35. *See iOS Dev Center – Apple Developer*, *supra* note 25.

36. *See* Malcolm Gladwell, *The Terrazzo Jungle*, THE NEW YORKER, Mar. 15, 2004, at 122–24.

37. For a general analysis of strategies in which platforms increase consumer search costs, *see* Andrei Hagiu & Bruno Jullien, *Why do Intermediaries Divert Search?*, 42 RAND. J. ECON. 337 (2011).

38. *See* Mankiw *supra* note 3, at 203–07.

- An investment manager engages in a Ponzi scheme that will ultimately collapse and harm the later investors.
- A local gang attacks its rivals.

The perpetrator does not bear any costs for imposing the externality and indeed may benefit from it. In the absence of laws and regulations, agents impose high costs on society. As is well known, left unchecked negative externalities reduce consumer welfare. For the examples above, rules that minimize negative externalities include:

- Toll booths or congestion charges that reduce the incentives to drive.
- Pollution taxes or tradable emission permission taxes that limit pollution.
- Fishing limits, including penalties for exceeding one's quota.
- Prison sentences and fines for engaging in investment fraud.
- Numerous criminal penalties for gang violence.

Many of the rules, both civil and criminal, that communities adopt can be viewed as solutions to negative externalities. Polities ban many sorts of behavior on the grounds that they worsen life in the community. Changing social norms alter the costs and benefits, and formal societal rules evolve as a result (for instance, rules defining the boundaries of unlawful pornography).

Platforms create communities of users with shared interests who benefit from interacting together. Successful platforms have identified positive interdependencies between users, figured out how to reduce transactions costs between these users, and determined price and non-price mechanisms for bringing these users together, thereby coordinating them into a community. Some users, however, may impose negative externalities in many of the same ways and for many of the same reasons as in polities. They may engage in behavior that reduces the value of the platform and that cannot be mitigated through pricing structures. As with polities these actions may range from the seemingly innocent to the obviously bad. The negative externalities that occur on multi-sided platforms are similar to those that occur in polities, as we show next.

A. IT OUGHT TO BE A CRIME

Platform users may engage in various forms of behavior that have no redeeming virtues and that are analogous to practices that are criminal violations in polities.[39]

Platform users may engage in myriad types of fraud and misrepresentation. Fraud may occur when merchants sell counterfeit goods[40] or accept payment but then do not ship the goods.[41] Brokers on exchange platforms could engage in front-running—that is, profiting from information on trades placed by clients possibly to the detriment of the client. Firms can encourage their employees to click on a competitor's ads on search engines to impose costs on them.[42] Misrepresentation may also occur when people lie about their age or their weight on dating sites,[43] the true nature of a smartphone application,[44] or the popularity ranking of their websites.[45] This list does not exhaust the ways in which opportunistic behavior can occur on platforms.

Polities have rules to prevent people from assaulting other people, engaging in bodily harm, committing libel, and causing mental distress. These issues can arise on multi-sided platforms as well. Interactions in nightclubs and other physical and virtual dating venues can result in bodily harm. Craigslist, for example, has been used by sexual predators to meet, and in some cases kill or rape, victims.[46] Social networks can be used for inflicting

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39. *See* Richard A. Posner, *An Economic Theory of the Criminal Law*, 85 COLUM. L. REV. 1193, 1195–97 (1985) (framing crimes as market bypasses creating net disutility).

40. *See* Rob Unsworth, *Amazon Marketplace Offering Dangerous Goods*, BBC (Dec. 8, 2008), http://www.bbc.co.uk/blogs/watchdog/2008/12/amazon_marketplace_offering_da.html.

41. *See Amazon Marketplace and Ebay Fraud*, ANDRE GUNTHER PHOTOGRAPHY, http://www.aguntherphotography.com/blog/amazon-marketplace-ebay-fraud.html (last visited Aug. 23, 2011).

42. *See* Dan Shipe, *Is AdWords Click Manipulation Taking Money From Your Pocket?*, ARTICLE/.COM (Aug. 29, 2008), http://www.articleslash.net/Internet-and-Businesses-Online/PPC-Advertising/475634__Is-AdWords-Click-Manipulation-Taking-Money-From-Your-Pocket.html.

43. *See Illusion or Deception?? Why do some people misrepresent themselves on dating sites?*, EHARMONY ADVICE—MEMBER DISCUSSION FORUM, http://advice.eharmony.com/boards/dating-advice/dating/50844-illusion-deception-why-do-some-people-misrepresent-themselves-dating-sites-3.html (last visited Aug. 1, 2011).

44. *See* Claudine Beaumont, *Google remotely deletes Android apps*, THE TELEGRAPH (Jun. 25, 2010), http://www.telegraph.co.uk/technology/google/7854560/Google-remotely-deletes-Android-apps.html.

45. *See* Tom Espiner, *Google blacklists BMW.de*, CNET NEWS (Feb. 6, 2006), http://news.cnet.com/Google-blacklists-BMW.de/2100-1024_3-6035412.html.

46. *See* Abby Goodnough, *Medical Student Is Indicted in Craigslist Killing*, N.Y. TIMES, June 21, 2009, at A13, *available at* http://www.nytimes.com/2009/06/22/us/22indict.html.

emotional distress.[47] A highly publicized case involved the use of a social network by Lori Drew to retaliate against a young girl, Megan Meier, who had a disagreement with Drew's daughter.[48] Using a fake account under which Drew assumed the false persona of a teenage boy, Drew orchestrated an online romance with Meier, had the fake boy become hostile, and eventually suggested that Meier kill herself. Soon after, Meier committed suicide.[49]

Interactions on multi-sided platforms can involve behavior that some users find offensive. This is no different than a regular community. People may incur costs as a result of unwanted exposure to hate speech, pornography, violent images, and other offensive content. Even if they are not exposed to this content, they may dislike being part of a community in which such behavior takes place.

B. POOR AND ASYMMETRIC INFORMATION

A standard problem in the exchange of value is that one party has information that the other party does not have. Lack of information imposes costs on actual and potential trading partners. In the extreme this can lead to market breakdowns as a result of the "lemons problem."[50] The collapse of the videogame market in the United States in 1983 has been attributed to a lemons problem. Consumers could not distinguish low quality from high quality games before buying them. Producers therefore had incentives to create cheaper low quality games that drove the high quality games out of the market. But consumers did not want to buy video game consoles to run low quality games.[51]

More generally, asymmetric information reduces market efficiency by reducing the likelihood that users will find the matches that maximize the

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47. *See, e.g.*, Yancy v. U.S. Airways, Inc., No. Civ. A. 10-983, 2011 WL 2945758 (E.D. La. July 20, 2011) (embarrassing pictures of employee were posted on Facebook); Maremont v. Susan Fredman Design Group, Ltd., No. 10 C 7811, 2011 WL 6101949 (N.D. Ill. Dec. 7, 2011) (employer used employee's personal Twitter and Facebook accounts to advertise while employee was in the hospital).

48. United States. v. Lori Drew, 259 F.R.D. 449 (C.D. Cal. 2009).

49. *See Mom: MySpace Hoax Led to Daughter's Suicide*, ASSOCIATED PRESS (Nov. 16, 2007), http://www.foxnews.com/story/0,2933,312018,00.html.

50. *See* George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q. J. OF ECON. 488 (1970) (owners of cars that are "lemons" are more likely to sell them; since consumers cannot distinguish lemons from good cars, the sale prices of good cars are depressed; that leads owners of good cars not to sell; the market for reselling quality cars is therefore destroyed).

51. *See* DAVID S. EVANS, ANDREI HAGIU & RICHARD SCHMALENSEE, INVISIBLE ENGINES: HOW SOFTWARE PLATFORMS DRIVE INNOVATION AND TRANSFORM INDUSTRIES 124–25 (2006).

total value from trade. Several studies have found that requiring corporate bond traders to disclose information on trading prices resulted in improved efficiency and substantially lower trading costs.[52]

Opportunistic behavior resulting from asymmetric information may increase the uncertainty for people and companies that are considering using a platform. Traders may prefer platforms that have transparent pricing and social network users may prefer platforms where information about people is reliable.

C. CONGESTION AND OPTIMIZING PHYSICAL SPACES

Negative externalities can result from increasing the number of users for multi-sided platforms. Physical platforms face congestion problems. A nightclub provides a trivial example. Too many people will make it harder for people to mingle and enjoy themselves. A shopping mall provides a more interesting example. An increase in the number of merchants may increase search costs and therefore harm other sellers as well as buyers.

Multi-sided platforms have to design and manage their spaces to reduce negative externalities as well as to promote positive externalities. Expanding the square footage of a mall to accommodate more stores imposes costs on shoppers who have to walk farther on average. Similar considerations apply to virtual platforms. Search engines need to make decisions on how many results and advertisements to display on each page and in what format. They need to do this to promote positive externalities and also to limit congestion and reduce search costs.[53]

D. CASE IN POINT: DECORMYEYES

Vitaly Borker's strategies for selling eyewear on the web highlight almost all these forms of bad behavior; they also provide a lesson in what happens

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52. These studies concern the introduction of the TRACE (Trade Reporting and Compliance Engine) system for corporate bonds in the United States. *See* Hendrik Bessembinder, William Maxwell & Kumar Venkataraman, *Market Transparency, Liquidity Externalities, and Institutional Trading Costs in Corporate Bonds*, 82 J. OF FIN. ECON. 251 (2006); Amy Edwards, Lawrence Harris & Michael Piwowar, *Corporate Bond Market Transaction Costs and Transparency*, 62 J. OF FIN. 1421 (June 2007); Michael Goldstein, Edith Hotchkiss & Erik Sirri, *Transparency and Liquidity: A Controlled Experiment on Corporate Bonds*, 20 REV. OF FIN. STUD. 235 (2007). For a summary, see Hendrik Bessembinder & William F. Maxwell, *Transparency and the Corporate Bond Market*, 22 J. OF ECON. PERSP. 217 (2008).

53. Eye-tracking studies of how consumers use search engines reveal that both the quality of the consumer experience and the attention paid to advertising varies substantially with the layout and organization of the search results page. *See, e.g.*, CatalystGroup, *Google vs. Bing: Search Engine Preference*, June 2009, *available at* http://www.catalystnyc.com/cofactors/wp-content/uploads/2009/06/catalyst-eye-tracking-bing-vs-google-may-2009.pdf.

when platform governance is imperfect. Borker learned that search engines did not distinguish between good and bad cites to his website.[54] He responded to complaints with highly offensive emails and posts that generated even more complaints.[55] He told a New York Times reporter, "I've exploited this opportunity because it works. No matter where they post their negative comments, it helps my return on investment. So I decided, why not use that negativity to my advantage?"[56]

Borker, who used the aliases Tony Russo and Stanley Bolds, received many complaints because he engaged in fraudulent behavior, including adding spurious charges to customers' payment cards.[57] When people pursued their complaints against him, Borker—sometimes using one of his aliases—threatened them with bodily harm including death or rape.[58] He threatened one customer with sexual violence when she said she was going to have her credit card issuer reverse an overcharge.[59] Borker later sent the customer pictures of the outside of her apartment building in a further attempt to intimidate her.[60]

Borker relied heavily on two web platforms for these practices. He fulfilled his orders from sellers on eBay who were directed to ship to his customers.[61] He also used search engine rankings to drive business.[62] Initially, the governance systems of these platforms failed to thwart him. In the case of search results, he had discovered a way to manipulate the search algorithm as well as the detection methods then in place for identifying efforts to distort results.[63] After the story was reported, Google developed an algorithm to detect efforts to increase search rankings by encouraging bad comments.[64]

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54. *See* David Segal, *A Bully Finds a Pulpit on the Web*, N.Y. TIMES, Nov. 28, 2010, *available at* http://www.nytimes.com/2010/11/28/business/28borker.html.

55. *Id.*

56. *Id.*

57. *See id.*

58. *See "Google hitman": Eyeglasses seller "threatened customers with rape and murder to elevate his website on search engines,"* DAILY MAIL, May 15, 2011, *available at* http://www.dailymail.co.uk/news/article-1387310/Google-hitman-Vitaly-Borker-threatened-customers-rape-murder.html.

59. *See* Segal, *supra* note 54.

60. *Id.*

61. *See id.*

62. *See id.*

63. *Id.*

64. Alyson Shontell, *Making Customers Hate You Makes Google Love You*, BUS. INSIDER, Dec. 3, 2010, http://www.businessinsider.com/making-customers-hate-you-makes-google-love-you-2010-12.

Meanwhile, public law took care of Borker, who pled guilty to wire fraud, mail fraud, and sending threatening communications.[65]

E. BAD BEHAVIOR AND PLATFORM VALUE

Many forms of bad behavior, such as fraud and misrepresentation, clearly reduce the value of the platform. Like many forms of criminal behavior, this behavior has no redeeming virtues. However, some behavior that imposes costs on other participants in the platform and therefore seems "bad" also provides benefits. When these benefits outweigh the costs, the behavior does not generate negative externalities, on net, and therefore is not behavior that the platform would necessarily want to discourage.

That could be the case, for example, with asymmetric information in some cases. Users may need incentives to invest in acquiring information, and the ability to capitalize on their control over that information may provide those incentives. The benefits from increased dynamic efficiency from investment in gathering information may outweigh the losses from lower static efficiency as a result of not sharing that information.[66] Greater transparency on social networks has its costs too. Information that increases the value of one relationship may decrease the value of another relationship.[67]

IV. DEALING WITH BAD BEHAVIOR

Multi-sided businesses could simply rely on civil and criminal law and government regulation to deal with the negative externalities that arise on their platforms. Users have recourse to laws involving breach of contract, fraud, market manipulation, assault and battery, and intentional infliction of emotional distress to deal with many of the problems discussed above.[68] Laws and regulations have tackled asymmetric information problems through

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65. Kathy Kristof, *Online Retailer Guilty of Fraud, Threats*, CBS MONEYWATCH (Dec. 6, 2010), http://moneywatch.bnet.com/saving-money/blog/devil-details/online-retailer-charged-with-fraud-threats/3478/.

66. Studies of increased transparency in bond markets found that transparency may have reduced liquidity, leading to some markets being inefficiently thin. Hendrik Bessembinder & William Maxwell, *Markets: Transparency and the Corporate Bond Market*, 22 J. OF ECON. PERSP. 217, 228–29 (2008).

67. *See* Danah Boyd, *None of This Is Real: Identity and Participation in Friendster*, *in* STRUCTURES OF PARTICIPATION IN DIGITAL CULTURE 132, 145 (Joe Karaganis ed., 2007). For the record, Ms. Boyd does not capitalize her first or last name. This imposes a negative externality on people, like me, who then have to deal with editors and readers who are not in on the deviation from grammatical rules.

68. *See, e.g.*, Complaint at 8, Thompson v. Facebook, No. 1:09-cv-22927-KMM (S.D. Cal. Sept. 29, 2009); First Amended Complaint, Yingling v. eBay, No. C-09-01733 (N.D. Cal. June 16, 2009).

mandatory disclosure laws, mandatory cooling-off periods, and return policies.[69] New multi-sided platform businesses can give rise to novel issues such as cyber bullying. Governments can pass new laws in response to this, as the State of Missouri did after the Megan Meier suicide and the unsuccessful prosecution of the instigator.[70]

Some multi-sided platforms have, however, developed their own mechanisms for dealing with bad behavior. They adopt rules for the users on one or more sides of the platform, institute reporting and detection mechanisms in order to uncover violations of these rules, require evaluations of the evidence through mandatory arbitrations, impose penalties, and sometimes even allow appeals from the initial evaluation as shown below.

There are two reasons for platforms not to rely entirely on the public sector. The first is that the platforms generally are able to enforce rules to reduce negative externalities more rapidly and efficiently than the public sector.[71] Search engines can develop algorithms for detecting efforts to manipulate search rankings and de-list websites that are trying to take advantage of users or demote them in the search rankings. An e-commerce platform can decide after a few complaints to drop a merchant from its site, and exchanges can debar traders. In addition to the inherent differences in the efficiency of public and private actors, the fact that the public sector must give people and businesses rights of due process (which society has found necessary to check the government's enormous powers over its citizens) necessarily makes the enforcement of laws and regulations by the public sector more time consuming and expensive. A platform owner, for example, can monitor a user's behavior without showing probable cause. A platform can therefore provide value to its community by providing an efficient governance system.

The second reason for a platform to take action is that public laws and regulations may be incomplete when it comes to policing negative externalities on platforms. The government may not have recognized (or recognized too slowly) a problem such as cyber bullying on social networks or the opportunistic inflation of search rankings. It may have other objectives or obligations, such as the protection of free speech that deter or preclude it

69. *See, e.g.*, Truth in Lending Act, 15 U.S.C. § 1601 (1968); Magnuson-Moss Warranty Act, 15 U.S.C. § 2301 (1975); FTC Cooling-Off Rule, 16 C.F.R. § 429 (1995).

70. *See* Associated Press, *Mo. Internet Harassment Bill Passed after MySpace Suicide*, USA TODAY, Jul. 1, 2008, *available at* http://www.usatoday.com/news/nation/2008-06-30-internet_N.htm.

71. For a related discussion *see* Henry E. Smith, *Property and Property Rules,* 79 N.Y.U L. REV. 1719 (2004); Henry E. Smith, *Exclusion and Property Rules in the Law of Nuisance*, 90 VA. L. REV. 965 (2004).

from enforcing rules that private parties may decide to adopt themselves—such as against hate speech or pornography. The government may also decide not to pursue various problems simply because the cost of doing so—including unintended consequences that often result from government laws and regulations—exceeds the likely benefits. The platform has more information about the problems, can react more quickly to them, and can modify its governance mechanisms more quickly if they are not working or are having perverse effects.

A private platform does not, of course, have the same range of instruments available to it as a public entity does. It cannot issue search warrants, engage in wiretaps, conduct dawn raids, put people in jail, or debar wrongdoers from anything other than participating on the platform itself. Unless it invokes public laws, for example by filing a breach of contract claim, it cannot compel the discovery of information for an investigation. Nor can a private platform collect penalties unless it requires a bond or collects it as a condition of the agent having continued access to the platform.

In fact, all of the platform's powers, aside from contract and other rights that it would have to enforce in public courts, rest in its property rights over the platform including, most importantly, its ability to exclude. This section elaborates on this point before turning to an overview of platform governance concerning negative externalities.

A. THE PROPERTY RIGHTS FRAMEWORK

Strahilevitz has presented a useful framework for analyzing how property rights can be used to deal with information asymmetries.[72] The right to exclude has four subordinate rights: (1) the Hermit's Right to keep all agents off the owner's property; (2) the Bouncer's Right to admit agents selectively to the property and therefore to eject agents selectively from the property; (3) the Exclusionary Vibe which uses social and psychological sanctions to discourage some agents from entering the property; and (4) the Exclusionary Amenity which uses club goods to sort desirable and undesirable entrants.[73]

72. *See* Lior Jacob Strahilevitz, *Information Asymmetries and the Rights to Exclude*, 104 MICH. L. REV. 1835, 1837 (2006). Boudreau & Hagiu, *supra* note 11, at 169, emphasize the "Bouncer's Right" identified by Strahilevitz. However, in the context of their analysis of the general solution by platforms of market failures, platforms also use the Exclusionary Vibe (e.g., a magazine for a niche audience) and the Exclusionary Amenity (e.g., a discount department store as an anchor in a mall).

73. Strahilevitz, *supra* note 72, at 1837.

He argues that the last three of these rights are substitutable methods for maximizing the value of the property.[74]

Strahilevitz's framework generally maps well into the tools that multi-sided platforms use to optimize the value of their property. Some platforms exercise the Hermit's Right through design decisions[75] and start out life single-sided. For example, the Palm Pilot created their own applications and did not allow others to do so for about eighteen months after its launch.[76] Almost all of the strategies for reducing negative externalities depend on the exercise of the Bouncer's Right. This is discussed in more detail in the next Section. The Exclusionary Vibe and Exclusionary Amenity are used by many platforms to attract a particular group of users on one side that is valuable to a particular group of users on the other side. There is a blurry line between the two strategies for multi-sided platforms. Niche magazines are an example. *Runners World* is designed to attract runners and companies that want to sell to them.[77] The vibe and amenity go together—companies that want to advertise to runners are attracted to the amenity by an aggregation of runners created by the vibe generated by the content (not to mention the title).

Smith, who Strahilevitz builds on, argues that property rights and governance are substitutes from the standpoint of maximizing social welfare.[78] The idea is that there are some market failures that governments can resolve precisely through laws and regulation. There are others that private parties can solve through the blunt instrument of property rights because they have better access to information.

Multi-sided platforms can be analyzed in this framework. They represent the interests of a community—albeit a private and voluntary one—just as a government does, and are perhaps even more motivated than the government to maximize, at least approximately, the social wealth of that community. The platform owner also has incentives to take the long-run interests of the community into account since it is maximizing the long-run value for itself or its shareholders. The platform often uses, among other

74. *Id.* at 1861.

75. *See* EVANS, HAGIU & SCHMALENSEE, *supra* note 51, at 168–69.

76. *Id.*

77. *See* RUNNER'S WORLD, http://www.runnersworld.com (last visited Feb. 29, 2012). The website homepage features a banner ad for the book *MARATHON: The Ultimate Training Guide*; the Shoes & Gear section includes a Store Finder tool, and the Nutrition & Weight Loss section displays a side ad for the book *The Lean Belly Prescription: The fast and foolproof diet and weight-loss plan from America's top urgent-care doctor.*

78. *See* Henry E. Smith, *Exclusion Versus Governance: Two Strategies for Delineating Property Rights*, 31 J. OF LEGAL STUD. S453 (2002).

things, a governance system for dealing with negative externalities among platform users. But for the platform, property rights—and the bundle of rights to exclude identified by Strahilevitz, and in particular the Bouncer's Right—are necessary for governance.

B. SELECTIVE EXCLUSION

Platform governance generally consists of a set of rules for platform agents that proscribe certain actions by these agents or compel certain other actions. These rules can be used to increase positive externalities. For example, card networks require banks to insert acceptance marks on cards and merchants to post acceptance marks; this makes it easier for cardholders and merchants who use the same payment method to find each other.[79] More commonly, though, rules are designed to eliminate or mitigate negative externalities. These rules need to have consequences to be meaningful. Those consequences can involve partial or full exclusion from the platform, or its benefits, for some period of time, perhaps forever.[80] The platform also needs to be able to detect violations for these rules to be meaningful. That could be a combination of proactive detection or response to complaints. And finally, the platform may employ a process in which suspected wrongdoers can plead their cases, or at least convey potentially useful information, and possibly an appeals process.

The Portobello Road Antique Dealers Association in London provides an example.[81] A number of antique dealers have located on Portobello Road in London. That is a common situation in the economic geography of agglomeration and is an example of a platform that emerges naturally without any necessary ownership. But some of these dealers decided to start an association to address common issues. One of those issues involved creating and maintaining a high quality brand. For this purpose they adopted a code of ethics. Members are required to post the price and as much information as possible about the item. The code also prohibits members from misrepresenting antiques or misleading their customers. The association also provides a dispute resolution service for customers who believe they have gotten a bad deal. Members who violate the code can be "bounced" from the

79. *See, e.g.*, *Visa International Operating Regulations*, VISA, October 15, 2011, at 153–54 (marks required on cards) and 434 (marks required at point-of-sale), http://usa.visa.com/merchants/operations/op_regulations.html.

80. *See, e.g.*, *Statement of Rights and Responsibilities*, FACEBOOK, http://www.facebook.com/legal/terms (last visited Feb. 29, 2012); *Your User Agreement,* EBAY, http://pages.ebay.com/help/policies/user-agreement.html (last visited Feb. 29, 2012) [hereinafter eBay User Agreement].

81. *See* EVANS & SCHMALENSEE, *supra* note 5, at 110–11.

association and therefore lose access to the credibility signal that the association provides to customers.[82]

Other commerce platforms have similar rules. eBay has a detailed user agreement for buyers and sellers.[83] It tells users that eBay has the right to restrict their access to the site in various ways, including full termination, if the user abuses the site.[84] The user agreement includes a mandatory dispute resolution mechanism for buyers and sellers. eBay has detailed rules for buyers[85] and sellers[86] that prohibit a variety of actions that could result in negative externalities. A major concern is the integrity of the auction process. For example, buyers are not allowed to bid on items offered by sellers they know personally. Sellers who are banned from the site can appeal that decision.[87]

These types of rules solve several possible externality problems. Consider the case of payment cards. Card users likely value certainty over the prices they will pay when they use their cards at accepting merchants; they also likely value the certainty that merchants with a sign indicating they accept the network's card actually do so. To the extent that merchants impose surcharges or refuse cards, they impose costs not only on the cardholders affected by these decisions but also cardholders generally through the introduction of uncertainty. In addition, merchants that surcharge cards or

82. "If it is reported that a member violates the code, we interview that member to hear he/she has to say and take action accordingly. This may be a verbal or written warning not to do it again or more severe action including expulsion from the Association." E-mail from Leyla Ozyurt, Portobello Market Association, to Jacqueline Murphy, Consultant, Market Platform Dynamics (Mar. 18, 2012, 13:05:00 CST) (on file with author).

83. *See* eBay User Agreement, *supra* note 80.

84. The user agreement says "Without limiting other remedies, we may limit, suspend or terminate our service and user accounts, prohibit access to our sites and their content, services and tools, delay or remove hosted content, and take technical and legal steps to keep users off the sites if we think that they are creating problems or possible legal liabilities, infringing the intellectual property rights of third parties, or acting inconsistently with the letter or spirit of our policies (for example, and without limitation, policies related to shill bidding, conducting off-eBay transactions, feedback manipulation, circumventing temporary or permanent suspensions or users who we believe are harassing our employees or other users). Additionally, we may, in appropriate circumstances and at our discretion, suspend or terminate accounts of users who may be repeat infringers of intellectual property rights of third parties. We also reserve the right to cancel unconfirmed accounts or accounts that have been inactive for a long time, or to modify or discontinue eBay sites, services or tools." *Id.*

85. *See Rules for Buyers—Overview*, EBAY, http://pages.ebay.com/help/policies/buyer-rules-overview.html (last visited Feb. 29, 2012).

86. *See Rules for Sellers—Overview*, EBAY, http://pages.ebay.com/help/policies/seller-rules-overview.html (last visited Feb. 29, 2012).

87. *See Help—Suspended accounts*, EBAY, http://pages.ebay.com/help/account/suspended-accounts.html (last visited Apr. 10, 2012).

refuse to accept cards selectively may impose costs on other merchants by degrading the overall quality of this form of payment. There is a further negative externality. Some merchants may use the desire to pay with a card as a method for implementing price discrimination. On average, consumers that want to pay with cards are less likely to have another equally convenient payment method and may therefore be willing to pay a higher price to the merchant. This may be a profit-maximizing strategy, especially when it is unlikely the consumer will be a repeat customer (e.g., a tourist).

A common problem for dating sites involves preventing unwanted approaches. Sites such as eHarmony check their users against lists of registered sex offenders.[88] They also do not allow users to search for profiles. Instead the site matches profiles using its algorithm and pre-screens each candidate. An introduction is made only if both parties agree to this. At that point, individual identifying information is made available to both parties.[89] eHarmony also provides a service whereby users can report problems and eHarmony can take actions including removing offending individuals from its service.[90]

While many multi-sided platforms have governance systems to limit negative externalities, others do not or have quite limited ones. Advertising-supported media tend to have very limited screening of ads. They often prohibit advertisements that would be offensive to their readers.[91] In the next

88. *See Safety Tips*, EHARMONY, http://www.eharmony.com/safety/tips (last visited Feb. 29, 2012). The "Do Your Own Research" Section states that eHarmony employs screening tools, including checking U.S. subscribers against sex offender registries in the United States. *See id.*

89. *See eHarmony Tour*, EHARMONY, http://www.eharmony.com/tour (last visited Apr. 10, 2012); *eHarmony is More than Traditional Dating Sites*, EHARMONY, http://www.eharmony.com/why/ (last visited Apr. 10, 2012).

90. Pam Holmgren, *A Safety Reminder from eHarmony,* EHARMONY BLOG (Apr. 18, 2011), http://advice.eharmony.com/blog/2011/04/18/a-safety-reminder-from-eharmony-2/ ("If you ever are concerned about one of your matches for any reason, please send an email to matchconcerns@eharmony.com so we can investigate and take appropriate action. We have a team dedicated to our members' safety and close accounts immediately when we receive a credible complaint about someone's suspicious behavior. We'll notify you whenever someone is removed from the service, so please pay attention to those emails if you ever receive one and stop all communication with that person.").

91. The Chicago Tribune does not intentionally take advertisements for sex services, but the paper does not police false advertising or provide readers with any mechanism for complaining about advertisers they have interacted with as a result of seeing an advertisement in the media. *See Advertiser Services—How It Works*, CHI. TRIB., http://www.chicagotribune.com/advertiser/how-it-works/ (last visited Mar. 1, 2012). Craigslist had, in the past, accepted the advertising of adult services on its site, but it has since removed the category. *See* Claire Cain Miller, *Under Fire From Critics, Craigslist Blocks*

section we will see how MySpace, the leading social network site in the United States in the mid 2000s, had a very limited governance system initially and imposed some rules only in response to significant media and governmental pressure.

The rules discussed above are generally enforced using the Bouncer's Right. Users that violate the rules can be ejected from the platform. Some people—such as known sexual predators on dating sites—are barred from entering the platform in the first place.

C. INFORMATION AND TRANSPARENCY

Multi-sided platforms also provide information to deal with negative externalities. That has become increasingly common as a result of the development of Internet and web technologies. eBay Motors has reduced the lemons problem by providing ratings on automobile dealers. eBay provides a mechanism for consumers to rate merchants after they have made a purchase. They send consumers reminders to provide these ratings.[92] A consumer can minimize the likelihood of getting a car with undisclosed problems by buying from an automobile dealer that has a very high rating. Automobile dealers presumably know that a negative rating can have a serious effect on their ability to make sales. The reviews limit the ability of automobile dealers to take advantage of consumers by exploiting asymmetric information. They also limit the ability of dealers to impose negative externalities on each other since good dealers tend to drive out bad dealers as consumers lower their expectations on the quality of cars they get from bad dealers.[93] Similar rating systems are common now on web-based platforms that connect buyers and sellers.[94]

Access to 'Adult Services' Pages, N.Y. TIMES, Sept. 4, 2010, *available at* http://www.nytimes.com/2010/09/05/technology/05craigs.html.

92. *See eBay Updates to Payment and Leave Feedback Reminder Emails Sent to Buyers*, EBAY, http://pages.ebay.com/sellerinformation/news/reputationemails.html (last visited Feb. 29, 2012) ("Because the Feedback system has such an important role on eBay in measuring a seller's quality of service, an email reminding buyers to leave Feedback is sent by eBay as a consistent part of all transactions.").

93. For example, in recently purchasing an automobile on eBay, the author found that it was possible to limit consideration to dealers with 100 percent satisfaction ratings. There was no need to consider dealers that had complaints.

94. *See, e.g.*, *Rating a Seller*, AMAZON, http://www.amazon.com/gp/help/customer/display.html?nodeId=537806 (last visited Feb. 29, 2012); *Feedback scores, stars, and your reputation*, EBAY, http://pages.ebay.com/help/feedback/scores-reputation.html (last visited Feb. 29, 2012); *How do I leave feedback?*, ETSY, http://www.etsy.com/help/article/102 (last visited Feb. 29, 2012).

The provision of information is often an application of the Exclusionary Vibe. The multi-sided platform is exercising its property rights when it collects information from users on the platform about other users and makes that information publicly available. It does not bounce users that engage in opportunistic behavior, or users that create negative externalities as a result of the lemons problem, but it does establish a mechanism that tends to drive low quality users off of the platform.

The Exclusionary Vibe can be used to reduce negative externalities in other ways than the direct provision of information. An example is JDate, which advertises itself as the premier Jewish singles community.[95] One would expect that having Gentiles would impose negative externalities on Jews looking for other Jews since it would increase their search costs and reduce matching efficiency. It would not appear that the site has any way to verify religious or ethnic background, so it could not specifically exclude non-Jews. But it can establish a vibe that this is a site meant for Jewish men and women to meet each other. It also encourages Gentiles to identify themselves.[96]

V. GOVERNANCE REGIMES FOR KEY PLATFORMS

Three economically prominent platform types—social networks, stock exchanges, and search engines—illustrate the role of governance systems, the methods that are chosen for these governance systems, and the tensions that governance systems create between the platform sides.

A. SOCIAL NETWORKS

The evolution of social networks from Friendster to MySpace to Facebook shows the role of negative externalities in platforms that are perhaps the closest to traditional communities and shows how different governance systems can affect platform value. Negative externalities played a role in the downfall of both Friendster and MySpace. Meanwhile, Facebook—which has almost a billion active monthly users around the world—continues to thrive because it created and emphasizes a "nice" community that prohibits foul language, fake identifies, and pornography.

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95. *See* JDATE, http://www.jdate.com/ (last visited Aug. 1, 2011).

96. *See* Lisa Scherzer, *Looking for Mr. Goodstein: When Gentile Singles Seek Jewish Mates*, INTERFAITHFAMILY.COM, http://www.interfaithfamily.com/relationships/interdating/Looking_for_Mr_Goodstein_When_Gentile_Singles_Seek_Jewish_Mates.shtml (last visited Feb. 29, 2012) (quoting Gail Laguna, vice president of communications at MatchNet.com, owner of JDate: " 'When a member sets up a profile on JDate, they are asked to put down their religious affiliation; there is an option to pick another religious stream,' she said. 'If they are non-Jews, we encourage them to put down that they're not Jewish and not pretend they're of the Jewish faith' ").

Although initially successful, Friendster's belated attempt to impose a private governance regime ultimately led to its failure. Friendster launched in 2002 and grew rapidly.[97] Jonathan Abrams, its founder, thought the dating sites of the time were "too anonymous and creepy."[98] They also provided inaccurate information. As he put it, "[w]ith JDate, [for example,] a guy is almost bound to be twenty pounds heavier or twenty years older than he is in his photo."[99] To solve this problem Abrams developed Friendster so that people could link to friends and see friends of friends. "We're trying to make the process more accountable," he said.[100] "People will put a more accurate picture of themselves on Friendster because you know your friends will see it."[101] By 2003 Friendster had more than three million users.[102]

However, the use of Friendster to create fake profiles quickly became popular. "Fakesters"—as they were called—made up fictional personas for themselves. According to Danah Boyd, "Fakesters were created for famous people, fictional characters, objects, places and locations, identity markers, concepts, animals, and communities."[103]

Friendster's management soon recognized that Fakesters posed burdens on the social networking site. Boyd writes, "[a]lthough most participants loved the playful aspect of Fakesters, it further complicated the network structure and created an appearance of unreliability, which irritated both the company and individuals intent on using Friendster for serious networking."[104] In addition, some of the Fakesters attracted massive traffic, which caused congestion on the site's servers. Recognizing these negative externalities, Friendster's owners decided to purge the Fakesters, who consumed significant amounts of scarce server capacity and created noise.[105]

In response to Friendster's purge, the Fakesters organized themselves and attempted to reinsert their profiles. They also sought revenge on Friendster by having "Fraudsters" masquerade as real people. Friendster's growth slowed considerably as a result of its continued efforts to exclude

97. *See* Boyd, *supra* note 67, at 133.

98. *See Finding Love Online, Version 2.0*, BLOOMBERG BUSINESSWEEK, Jun. 10, 2003, http://www.businessweek.com/technology/content/jun2003/tc20030610_4294_tc104.htm.

99. JULIA ANGWIN, STEALING MYSPACE: THE BATTLE TO CONTROL THE MOST POPULAR WEBSITE IN AMERICA 50 (2009).

100. *Id.*

101. *Id.*

102. *See A Cautionary Tale*, FAST COMPANY (Dec. 19, 2007), http://www.fastcompany.com/magazine/115/open_features-hacker-dropout-ceo-cautionary-tale.html.

103. Boyd, *supra* note 67, at 148.

104. *Id.* at 150.

105. *See id.* at 151.

people from the network. One could conclude that Friendster's downfall resulted from imposing and enforcing a governance regime. As will soon be clear, a more plausible interpretation is that Friendster's failure to impose rules against fake identities at the outset resulted in significant negative externalities.

Unlike Friendster, MySpace embraced a lax policy towards the reliability of consumer information. This policy helped its early rise but led to the website's ultimate downfall. MySpace was founded in 2003:[106] its founders thought that Friendster was making a mistake in preventing people from having fake identities.[107] The website quickly attracted people who were being deleted from Friendster, including Tila Tequila—a Vietnamese model—whose real surname was Nguyen. Tila Tequila attracted a larger following on Friendster in part by posting provocative photos of herself. Friendster deleted her account several times, and as a result she moved to the more welcoming MySpace.[108] Others followed. MySpace grew very quickly, overtook Friendster, and became one of the most heavily trafficked sites on the Internet for a period of time.[109]

MySpace's laissez faire governance policies soon caused problems. Because MySpace did not require or encourage people to provide reliable information, it attracted child sex predators as well as minors who lied about their ages. The site also did little to discourage people from having user pages with "partial nudity, obscenity, crude sexual jokes, and other objectionable content."[110] MySpace gained a reputation as a "vortex of perversion"[111] and as a site that was not very safe—like a city's red light district.

As the popularity of the site attests, a large number of people liked the risqué nature of MySpace. Yet, advertisers—who provided the principal

106. *See Company Overview of MySpace, Inc.: Snapshot*, BLOOMBERG BUSINESSWEEK http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=120412 (last visited Mar. 1, 2012).

107. *See* Danah Boyd, *Friends, Friendsters, and Top 8: Writing Community into Being on Social Network Sites*, FIRST MONDAY (Dec. 4, 2006), http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1418/1336.

108. *See* Lev Grossman, *Tila Tequila*, TIME, Dec. 16, 2006, http://www.time.com/time/magazine/article/0,9171,1570728,00.html.

109. It was one of comScore's top fifty web properties in the United States by April 2005. *See* JULIA ANGWIN, *supra* note 99, at 126.

110. *See id.* at 181.

111. *See* Felix Gillette, *The Rise and Inglorious Fall of MySpace*, BLOOMBERG BUSINESSWEEK, Jun. 27, 2011, at 52, 58, *available at* http://www.businessweek.com/magazine/content/11_27/b4235053917570_page_5.htm.

source of revenue for MySpace[112]—did not. Companies did not want to risk displaying their brands on pages with objectionable content. With limited interest from major brands in buying advertising inventory, MySpace moved its advertising inventory to other advertising networks, including Google's context-based advertising network.[113] These networks inserted low-price advertisements automatically into areas MySpace made available.[114] Not surprisingly—given the content of the site, the low prices for the advertising inventory, and some of the people attracted to MySpace—a number of the advertisements that were displayed were also related to things that some people would find objectionable.

Facebook—which started in February 2004—took a very different approach than either Friendster or MySpace. It adopted strict rules to prevent bad behavior despite being initially targeted to, and started by, college kids. Like Friendster it focused on creating a platform for people to manage their relationships with friends. But Facebook required people to use their real identities. It initially limited access to the site to people with valid university email accounts ending in ".edu," starting with harvard.edu. It then expanded to selected groups, including businesses with identifiable email addresses. When it opened to the world in September 2006, Facebook had 500 regional networks.[115] Although this approach made it more difficult for people to use fake identities on Facebook it was still possible. Facebook—like Friendster—deletes the pages with fake identities that violate its terms of service. For example, in 2007 it deleted the pages that people had set up to represent brands that were not allowed at the time.[116]

Facebook has also taken active steps to limit negative externalities on its site that would limit its appeal to new users and to advertisers who are considering inserting messages on its pages. Its terms of service prohibit

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112. *Is MySpace Free?*, MYSPACE.COM, (Aug. 22, 2008), *available at* http://web.archive.org/web/20080822094142/http://www.myspace.com/Modules/Help/Pages/HelpCenter.aspx?Category=1&Question=33.

113. *See Google signs $900m News Corp Deal*, BBC NEWS, Aug. 7, 2006, http://news.bbc.co.uk/2/hi/business/5254642.stm.

114. *See* Kevin Kelleher, *MySpace and Friends Need to Make Money. And Fast.*, WIRED, Mar. 24, 2008, *available at* http://www.wired.com/techbiz/it/magazine/16-04/bz_socialnetworks.

115. *See* Janet Kornblum, *Facebook Will Soon be Available to Everyone*, USA TODAY, Sept. 11, 2006, http://www.usatoday.com/tech/news/2006-09-11-facebook-everyone_x.htm.

116. *See* Niall Kennedy, *Facebook Cleanses Pages of Supposed Fakesters*, NIALL KENNEDY'S WEBLOG (Dec. 1, 2007, 8:54 PM), http://www.niallkennedy.com/blog/2007/12/facebook-pages-deletions.html. Note, however, that Tila Tequila has a fan page (perhaps the name is no longer viewed as fake) but with decidedly less provocative pictures than she has on MySpace. *See Tila Tequila's Albums*, FACEBOOK, http://www.facebook.com/Tila/photos (last visited Apr. 16, 2012).

various actions including bullying, intimidating, or harassing any user, posting content that is "hateful, threatening, or pornographic, incites violence; or contains nudity or graphic or gratuitous violence."[117] As of April 2009, 150 (eighteen percent) of the company's 850 employees focused on policing the website for offensive content.[118] They would delete photos such as a "girl blowing an epic cloud of pot smoke" that violated the social norms the company wanted to promote.[119]

> At Facebook, the range of policed activity is broad. A division called User Operations looks at all content that users say is harassing (via "report this" links spread liberally throughout the site) or that shows drugs, nudity or pornography. It also maintains an extensive "blacklist" of forbidden names that cannot be used to make new profiles, like Batman. Some of this monitoring is quite small beer: you're not allowed to call someone a "jerk" on Facebook if someone reports it. Employees also vigorously enforce their "real-name culture"; they even disabled the actress Lindsay Lohan's account in December after discovering that she was on the site under an alias.[120]

The treatment of negative externalities is only one feature that has influenced the relative fortunes of Friendster, MySpace, and Facebook. However, popular accounts of their downfalls tend to highlight the difficulty that Friendster had in dealing with the Fakester problem and the reputation that MySpace acquired for having a seedy and unsafe community. Decisions on private governance systems contributed to the financial results for these social networks. MySpace was bought by News Corporation in 2005 for $580 million and sold in June 2011 for $35 million.[121] Friendster was sold for $26 million in 2009 and closed down its original site and deleted user profiles in 2011.[122] Facebook displaced MySpace as the leading social network measured

117. *See Statement of Rights and Responsibilities*, Facebook, Apr. 26, 2011, http://www.facebook.com/terms.php.

118. *See* Nick Summers, *Walking the Cyberbeat*, THE DAILY BEAST, Apr. 30, 2009, http://www.thedailybeast.com/newsweek/2009/04/30/walking-the-cyberbeat.html.

119. *Id.*

120. *Id.*

121. *See* Jessica E. Vascellaro, Emily Steel & Russell Adams, *News Corp. Sells Myspace for a Song*, WALL ST. J., Jun. 30, 2011, *available at* http://online.wsj.com/article/SB10001424052702304584004576415932273770852.html.

122. *See* Julianne Pepitone, *Friendster Plans to Nuke Its User Data*, CNN MONEY (Apr. 26, 2011, 2:48 PM), http://money.cnn.com/2011/04/26/technology/friendster/index.htm.

by users and page views in May 2008.[123] Facebook's has a market value of almost $100 billion based on trading in its stock in private markets.[124]

One of the major business risks that Facebook faces—and a source of continuing controversy—concerns how much control it gives users over the dissemination of private data.[125] Individual users can face adverse effects from disclosure while other members of the Facebook platform—such as advertisers and application developers—benefit from greater access to data. Its governance rules concerning privacy-related negative externalities, and its choices relative to new competitors like Google+, are likely to be important for striking the optimal balance between the competing interests of members of its community.[126]

B. STOCK EXCHANGES

Modern stock exchanges—which have detailed rules and regulations that are designed to ensure the integrity of their markets—provide another example of how communities govern negative externalities. As observers note, "[s]tock exchanges around the world invest considerable manpower, technological effort and financial resources to curb market manipulation and to promote market efficiency and integrity."[127] They impose rules concerning market manipulation—doing things to artificially affect market signals such as disclosing false information or creating a false impression of trading activity. They also impose rules concerning insider trading—using material non-public information. Nasdaq, for example, has detailed rules "regarding

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123. *See* Caroline McCarthy, *Facebook Overtakes MySpace Globally*, ZDNET (June 23, 2008, 9:13 AM), http://www.zdnet.com/news/facebook-overtakes-myspace-globally/207724.

124. *See* Lee Spears & Mohammed Hadi, *Facebook's Implied Value Slips to $98 Billion in Private Market Trading*, BLOOMBERG, Feb. 16, 2012, http://www.bloomberg.com/news/2012-02-16/facebook-s-implied-value-slips-to-98-billion-in-private-market-trading.html.

125. For a litany of controversies surround Facebook, *see Criticism of Facebook*, WIKPEDIA, http://en.wikipedia.org/wiki/Criticism_of_Facebook (last visited Mar. 1, 2012).

126. There is perhaps no better antidote to professional prognostication than the history of social networks. Friendster was a highly praised internet business for much of 2003 before evolving into a famous case study of business mistakes. *See* Boyd, *supra* note 67; Mikolaj Jan Piskorski & Carin-Isabel Knoop, *Friendster (A)* (Harvard Business School, Paper No. 9-707-409, 2007). MySpace was then lauded for its brilliant effort, in part based on its willingness to let anyone do anything on its site, in displacing Friendster. Commentators thought that it had "won" the race for dominance in social networking. *See* Marc Gunther, *News Corp. (hearts) MySpace*, CNNMONEY, Mar. 29, 2006, http://money.cnn.com/2006/03/28/technology/pluggedin_fortune/. It remains to be seen whether Facebook will make the sorts of mistakes in balancing the interests of its community—in particular juggling negative and positive externalities that upended its predecessors or many other possible business mistakes that could reverse its growth.

127. *See* Douglas Cumming, Sofia Johan & Dan Li, *Exchange Trading Rules and Stock Market Liquidity*, 99 J. OF FIN. ECON. 651 (2011).

wash trades, pre-arranged trading, fictitious orders, giving up priority, churning, front-running, and a variety of other types of practices."[128] In addition to market manipulation rules, exchanges have rules for business dealings among members including rules about payment and delivery.[129] Exchanges enforce these rules in a variety of ways including expelling members for violating them.[130]

While modern stock exchanges are subject to government laws and regulation, modern exchanges adopt and enforce their own rules as well.[131] In the United States, for example, exchanges design their own rules. Although the Securities and Exchange Commission ("SEC") approves rules governing U.S. exchanges, the SEC does not dictate the rules.[132] In fact, a critical feature in the development of stock exchanges in the eighteenth century was the ability to exclude users for bad behavior as the early history of the London Stock Exchange—described below—demonstrates. Indeed, private control over negative externalities among traders was critical to the emergence of the modern stock exchange.

The securities market in London operated informally for a couple of hundred years.[133] Securities were traded bilaterally as far back as the sixteenth century.[134] It was convenient for traders to have places to congregate. They initially did so at the Royal Exchange, where commodities were traded. After being ejected for crowding the exchange, traders aggregated themselves in some of the coffee houses—such as Jonathan's Coffee House—in the nearby Exchange Alley.[135]

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128. *See id.* at 652.

129. NYSE Enforcement, NYSE, http://rules.nyse.com/NYSE/Rules/ (last visited Aug. 1, 2011).

130. For the rules governing NYSE enforcement actions, *see* Disciplinary Rules (Rules 475–77), NYSE, http://rules.nyse.com/nysetools/PlatformViewer.asp?SelectedNode=chp_1_7&manual=/nyse/rules/nyse-rules/. For a list of disciplinary actions by the NYSE, *see* http://www.nyse.com/DiscAxn/discAxnIndex.html.

131. *See* John Carson, *Self Regulation in Securities Markets: International Trends and New Directions after the Financial Crisis*, COMPLIAX CONSULTING, INC., Mar. 2009, http://compliax.com/app/download/1791228504/Self-Regulation+in+Securities+Markets.pdf.

132. *See* 15 U.S.C. § 78s(b)(1) (2010) (statute empowering self-regulatory organizations, including exchanges, to make their own rules, subject to approval by the SEC); SEC Release 34-50699, Part I.A, Nov. 18, 2004, *available at* http://www.sec.gov/rules/proposed/34-50699.htm (background information on the self-regulation of exchanges, in the context of a proposed rule to strengthen exchange governance).

133. *See* RANALD MICHIE, THE LONDON STOCK EXCHANGE: A HISTORY 15 (1999).

134. *Id.*

135. *See* Edward Stringham, The Emergence of the London Stock Exchange as a Self-Policing Club, 17(2) J. PRIVATE. ENTERPRISE 1, 4–6 (2002).

In the early days of the London Stock Exchange, traders faced the problem of ensuring that exchange partners would honor agreements to complete buy and sale orders when they came due. The Barnards Act, passed in 1734, declared time-based bargains a form of gambling for which it was not possible to enforce contracts.[136] Because traders could not rely on contracts, "[i]t was . . . left to the market participants themselves to create a code of conduct that enforced the conditions necessary for trade. Even without the legal impediments . . . those who participated actively in the market would seek to find a solution to their own problems among themselves."[137] In the mid eighteenth century, several groups of traders in financial instruments—including bankers and marine underwriters—organized themselves into exclusive associations in which members who violated the stated or unstated rules of the association could be ejected.[138]

A group of stockbrokers, who had operated an informal market at Jonathan's Coffee House, tried to do the same in 1761. According to one contemporary source, "The gentlemen at this very period of time . . . . have taken it into their heads that some of the fraternity are not so good as themselves . . . . and have entered into an association to exclude them from J-----'s coffee-house."[139]

They paid the coffee house for the right to use the premises exclusively for three hours a day.[140] As required by that agreement, the master of the coffee house, a Mr. Feres, apparently ejected a Mr. Renoux who then sued for assault.[141] According to the *London Chronicle*, on June 9, 1762:

> It being proved at the trial that that house had been a market (time out of mind) for buying and selling government securities, the Jury brought in their verdict for the plaintiff, with one shilling damage; by which means Jonathan's Coffee-house is now a free and open market, and all combinations there destroyed.[142]

In 1772, a group of London stockbrokers took another approach towards creating an exclusive trading society. They funded the construction of a new building, the Stock Exchange, for trading.[143] Given the previous

136. MICHIE, *supra* note 133, at 31.
137. *Id.*
138. *Id.*
139. *See* C. F. Smith, *The Early History of the London Stock Exchange*, 19 AMER. ECON. REV. 206, 215 (1929) (quoting T. MORTIMER, EVERY MAN HIS OWN BROKER, xiv (2d ed. 1761)).
140. *See* MICHIE, *supra* note 133, at 31.
141. *See* James Oldham, *Law Reporting in the London Newspapers, 1756–1786*, 31 AM. J. LEGAL HIST. 177, 185–86 (1987).
142. *Id.* at 186.
143. *See* MICHIE, *supra* note 133.

legal result, they made admission open for a daily fee.[144] By the late 1790s, with the growth in securities markets, the governing committee of the Stock Exchange found that they did not have enough power to enforce discipline and faced difficulties in funding the administration of the exchange. The owners of the Stock Exchange decided in January 1801 to convert the open exchange into a closed "subscription room" for which members paid an annual fee.[145] The London Stock Exchange started on March 3, 1801.[146]

The new exchange adopted regulations for conducting business. "[A]dherence to these rules and regulations was monitored and adjudicated by a committee, including full-time administrative staff, and enforced by the threat of expulsion from the market."[147] Most of the regulations focused on creating trust among members, particularly involving payment and delivery. As a late nineteenth century treatise put it:

> [The London Stock Exchange's] main objects appear to be the easy and expeditious transaction of business, and the enforcement of fair dealing among its members. To these ends . . . a set of results formed for the admission and expulsion of members, and for the control of their conduct both between themselves and towards the public.[148]

The London Stock Exchange was also concerned with limiting negative externalities that members could impose on each other through market manipulation or asymmetric information. Writing about events in 1943, one historian observes, "[o]ne of the main functions of the Stock Exchange was to ensure a level playing field for all its members in terms of equal access to information. Consequently . . . it tried to ensure that price-sensitive information, such as company results, were released simultaneously to all."[149] The Exchange also "treated very seriously any matter of insider trading, whether accidental or deliberate."[150] In 1943, it expelled one member who received tips from a journalist on his stock recommendations.[151] It also warned members about doing business with non-members who raised

144. *Id.*
145. *Id.* at 35.
146. *Id.*
147. *Id.*
148. *See* RUDOLPH EYRE MELSHEIMER & WALTER LAURENCE, THE LAW AND CUSTOMS OF THE LONDON STOCK EXCHANGE 1 (Nabu 1879).
149. MICHIE, *supra* note 133, at 294–95.
150. *Id.* at 295.
151. *Id.*

insider-trading concerns. At least at this time, the government had no interest in outlawing insider trading.[152]

Stock exchanges—like other platforms—have incentives to deal with negative externalities among their members and to maintain the reputation of the exchange with the public. That does not necessarily mean that they have adopted the socially optimal governance structure. And governments, especially after the Great Depression, have imposed regulations on stock exchanges and also oversee the rules these exchanges adopt themselves.

There is a long-standing debate on the efficacy of government regulation that is beyond the scope of this Article.[153] The analysis of governance mechanisms for multi-sided platforms indicates, however, that stock exchanges have incentives to adopt rules and regulations to maximize the value of the platform and to do so in part by mitigating negative externalities among their members. The analysis of government intervention in securities markets should consider whether the government could provide tools that would help private enforcement, whether there are aspects of private regulation that could be done more efficiently by the government, and whether there are deviations between private and public incentives for maximizing the value of the platform.

C. SEARCH ENGINES

Search engines also provide a clear example of how multi-sided platforms privately govern negative externalities—and in particular how search engines regulate the problem of companies manipulating search rankings. Strong financial incentives exist for companies to rank as highly as possible in search engine results. For example, a media website makes more money if it attracts more viewers because advertising revenue is proportional to viewers and because the website will attract more viewers if it ranks more highly. Likewise, an e-commerce website makes more money if it attracts more viewers. Because some fraction of viewers will buy products and services from the website, the more viewers the website has the more sales it will make.

Companies that run websites can make more money if they can use knowledge of a search engine's algorithm to—in effect—trick the search

152. *Id.* at 296.

153. For an important contribution to the literature, *see* Rafael La Porta, Florencio Lopez-de-Silanes & Andrei Shleifer, *What Works in Securities Laws?,* 61 J. OF FIN. 1 (2006). They conclude from a study of securities markets in forty-nine countries that laws facilitating private enforcement through disclosure and liability rules benefit stock markets and that public enforcement plays a modest role at best. *Id.* at 20.

engine into thinking their websites rank higher than they should. According to one study, the top spot in a search ranking gets more than a third of the clicks compared to about seventeen percent for the second spot and three percent for the tenth spot.[154] More clicks results in more viewers.

However, opportunistic behavior associated with the manipulation of search results imposes significant costs on users. First, users receive distorted and inaccurate search results. Second, strategies that manipulate search rankings degrade the value of search results since users have no way of knowing whether any particular search result is the product of a manipulated or an unmanipulated ranking. The search engines deploy counterstrategies—including frequent changes in the algorithms as well as governance rules—to counter efforts at manipulating.[155]

Google's ongoing efforts to detect and punish websites that manipulate the Google search algorithm illustrate the role of governance rules for search engines. Google has developed a sophisticated governance system for mitigating negative externalities for its platform community of users, websites, and advertisers. However, it faces some difficult tradeoffs. It has developed guidelines that describe the good activities that it encourages websites to engage in and the bad activities that are banned because they distort the information-value of results.[156] It provides recommendations to webmasters on good technical, design, and content practices that will benefit website users and also help the website signal to the search algorithm that it is a high quality and relevant site.[157] This is an example of trying to promote positive externalities.

Google also describes deceptive and manipulative practices that could result in the imposition of sanctions on the offending website.[158] The basic principle is that websites are not supposed to do things that are designed to influence the search engine results as opposed to providing value to users. Google identifies specific techniques that websites are not supposed to use, including having hidden text or links, cloaking or sneaky redirects, loading pages with irrelevant keywords, having multiple pages with substantially the same content, and using doorway pages that are just created for search

154. Daniel Ruby, *The Value of Google Result Positioning*, INSIGHTS, CHITIKA (May 25, 2010), http://insights.chitika.com/2010/the-value-of-google-result-positioning.

155. *See Webmaster Tools: Search Engine Optimization (SEO)*, GOOGLE, http://support.google.com/webmasters/bin/answer.py?hl=en&answer=35291&ctx=cb&src=cb&cbid=mi5abtuzaoia (last visited Apr. 17, 2012).

156. *See id.*

157. *See id.*

158. *See id.*

engines.[159] The list is not intended to be exhaustive, and Google makes it clear that it will take action for any effort to distort search results artificially.[160]

> These quality guidelines cover the most common forms of deceptive or manipulative behavior, but Google may respond negatively to other misleading practices not listed here (e.g. tricking users by registering misspellings of well-known websites). It's not safe to assume that just because a specific deceptive technique isn't included on this page, Google approves of it. Webmasters who spend their energies upholding the spirit of the basic principles will provide a much better user experience and subsequently enjoy better ranking than those who spend their time looking for loopholes they can exploit.[161]

Google cannot disclose too much about how it detects violations because that would enable websites to manipulate the system.[162]

For example, Google imposed sanctions on J.C. Penney—an American department store chain that also sells merchandise online—for manipulating search results. In late 2010, the company achieved the top search result rankings for many of the products that it sells as a result of a highly successful Search Engine Optimization ("SEO") strategy.[163] An SEO consultant for the company inserted terms for J.C. Penney products in thousands of websites along with links back to www.jcpenney.com.[164] By doing this, the SEO consultant fooled Google's search algorithm into thinking that www.jcpenney.com was a more relevant website for the

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159. According to Google, "[d]oorway pages are typically large sets of poor-quality pages where each page is optimized for a specific keyword or phrase. In many cases, doorway pages are written to rank for a particular phrase and then funnel users to a single destination." *Webmaster Tools: Cloaking, sneaky Javascript redirects, and doorway pages*, GOOGLE, http://www.google.com/support/webmasters/bin/answer.py?answer=66355 (last visited Mar. 1, 2012).

160. *See Webmaster Tools: Search Engine Optimization*, *supra* note 133.

161. *See Webmaster Tools: Webmaster Guidelines*, GOOGLE, http://support.google.com/webmasters/bin/answer.py?hl=en&answer=35769&topic=2370419&ctx=topic (last visited Mar. 19, 2012).

162. The New York Times quotes the editor of the Search Engine Land blog, which covers the search industry: " 'Google is just cagey about everything.' That, he said, is because the company is perpetually worried that the more it reveals about the vaunted mathematical algorithm it uses to drive search results, the more people will try to game it." David Segal, *A Bully Finds a Pulpit on the Web*, N.Y. TIMES, Nov. 28, 2010, at BU1, *available at* http://www.nytimes.com/2010/11/28/business/28borker.html?pagewanted=all. A spammers' forum, www.blackhatworld.com, even provides tips for gaming the rules.

163. *See* David Segal, *The Dirty Little Secrets of Search*, N.Y. TIMES, Feb. 13, 2011, at BU1, *available at* http://www.nytimes.com/2011/02/13/business/13search.html?pagewanted=all.

164. *Id.*

inserted search terms than it really was. When it found out about J.C. Penney's strategy, Google imposed a penalty on the company. It manually reduced the search rankings for J.C. Penney for approximately 90 days.[165] As a result of the manual action J.C. Penney's rankings fell. For the search term "Samsonite carry on luggage," for instance, J.C. Penny fell from the first to the seventy-first spot.[166] Given the low click rate after the tenth spot on the first page, downgrading J.C. Penney to the seventy-first spot had almost the same effect as excluding it from that particular search query result altogether.

Google's governance system balances the value of providing users access to websites, ensuring the accuracy of the rankings, and deterring websites from manipulating the system.[167] In some cases it appears that Google subjects websites to manual actions that reduce their rankings for some period of time.[168] In other cases—like the case of J.C. Penney—websites are subjected to manual actions that reduce their rankings until they apply for reconsideration. Still in other cases websites are delisted altogether, although they have the possibility of applying for reconsideration. For example, BMW.de was delisted in 2006 for using doorway pages.[169]

Google's manual process involves the use of algorithms to detect possible violations as well as human decisions on how to respond and whether to reconsider. As the web has expanded, however, it is not feasible for Google to rely mainly on this process to ensure the quality of website rankings and mitigate externalities. As of June 2011, more than 350 million websites existed and about 150,000 new websites appeared each day.[170] Consequently, Google modifies its search algorithm frequently both to improve its performance and to counter efforts to game the algorithm. Changes in the algorithm result in changes in rankings and in some cases material changes in rankings. For example, a major change to the algorithm in February 2011 affected the quality score (an estimate of the relevance of a

165. *See* Matt Rosoff, *Google Has Stopped Punishing JC Penney*, BUS. INSIDER, May 25, 2011, http://articles.businessinsider.com/2011-05-25/tech/30017965_1_panda-google-jc-penney.

166. *See* Segal, *supra* note 163.

167. For further discussions of practices that Google has attacked, *see* Barry Schwartz, *Google Vows Renewed Look At Cloaking in 2011*, SEARCH ENGINE LAND, Dec. 28, 2010, http://searchengineland.com/google-vows-to-look-at-deceptive-cloaking-techniques-59802.

168. *See* Mitch Fournier, *What a Google Penalty Looks Like,* MITCH FOURNIER (July 21, 2011), http://mitchfournier.com/2011/07/21/what-a-google-penalty-looks-like.

169. *See* Tom Espiner, *Google Blacklists BMW.de*, CNET NEWS (Feb. 6, 2006, 6:58 AM), http://news.cnet.com/Google-blacklists-BMW.de/2100-1024_3-6035412.html?tag=contentMain;contentBody;1n.

170. *See* Julie O'Dell, *How Big Is The Web & How Fast Is It Growing?*, MASHABLE (Jun. 19, 2011), http://mashable.com/2011/06/19/how-many-websites/#17199How-Big-Is-the-Web.

website to a keyword) of 11.8 percent of the queries that Google received.[171] As a cross check on the changes to the algorithm, Google looked at whether its changes had detected websites that users (based on Chrome browser users) had chosen to block. The changes eliminated eighty-four percent of the several dozen most-blocked domains.[172]

Changes in the algorithm are—in the short run—a zero-sum game for websites. Some websites rise in the rankings while others fall. Those that rise in the rankings quietly celebrate while some of those who fall complain loudly. Those who complain do not necessarily have strong grounds. For instance, some of the websites that fall in the rankings do so because they have tried to manipulate the algorithm and have been penalized by Google as a consequence. Other websites fall in the rankings as collateral damage from the attempts by some websites to artificially inflate their rankings. In dealing with attempts to manipulate search rankings, Google is forced to repeatedly change its algorithm in ways that may create uncertainty even for websites that play by the rules. In other words, if all websites played by the rules they would all have greater certainty about the ranking algorithm.

Google's efforts to deal with negative externalities generated by opportunistic websites rest entirely on its ability to exercise property rights over the platform. By delisting websites, Google preserves the quality of its rankings and provides a significant disincentive to websites engaging in manipulation of search results. Google achieves almost the same result by manually reducing website rankings since there is a low value to being listed far down in the rankings. And finally, by being able to change its algorithm, Google possesses a scalable approach for mitigating negative externalities on a massively large and exponentially expanding platform. The consequence is that, over the longer run, the short run zero-sum game becomes a significant positive-sum gain for the platform, its users, and also for websites, who benefit from the enhanced quality signals that the platform—here Google—is able to provide.

Although Google's private governance regime may be beneficial, it is also controversial. As a result of changes in Google's rankings, several

171. *See Finding More High-quality Sites in Search*, THE OFFICIAL GOOGLE BLOG (Feb. 24, 2011, 6:50 PM), http://googleblog.blogspot.com/2011/02/finding-more-high-quality-sites-in.html.

172. The changes in part increased the detection of "scraper sites" and "content farms" that present shallow or low quality content by, for example, simply copying snippets from websites that present the original content. *See* Danny Sullivan, *Google Forecloses On Content Farms with "Panda" Algorithm Update*, SEARCH ENGINE LAND (Feb. 24, 2011), http://searchengineland.com/google-forecloses-on-content-farms-with-farmer-algorithm-update-66071.

companies have filed antitrust suits against Google for allegedly engaging in exclusionary practices or have encouraged governments to initiate antitrust investigations.[173] There have also been calls for government search neutrality regulation[174] under which search engines like Google would face legal constraints on adjusting results or penalizing websites. This topic is addressed further in the next Part, which looks at the distinction between efforts to use exclusion to police negative externalities and efforts to use exclusion to restrict competition.

VI. PRIVATE VS. PUBLIC GOVERNANCE IN THE REGULATION OF BAD BEHAVIOR ON PLATFORMS

Governments have developed extensive responses to bad behavior by members of the community. Criminal law and the police powers of the state deal with various actions by members of society that harm others. Governments use these laws to prohibit practices ranging from fraud to insider trading to murder. Common law also helps regulate negative externalities in the community through property rights, contract rights, and tort liability, which provides incentives to exercise care. Law and economics scholars have argued that much of criminal and common law can be interpreted as a rational attempt to maximize social welfare.[175]

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173. *See* TradeComet.com LLC v. Google, Inc., 693 F. Supp. 2d 370 (S.D.N.Y. 2010); Person v. Google, Inc., No. C 06-7297, 2007 WL 1831111 (N.D. Cal. June 25, 2007); KinderStart.com v. Google, Inc., No. C 06-2057, 2007 WL 831806 (N.D. Cal. Mar. 16, 2007); Google, Inc. v. MyTriggers.com, Inc., No. 09CVH10-14836 (Franklin Cnty. Ct. of Common Pleas, Ohio, Aug. 31, 2011); Leo Condrowicz, *The E.U. Probe: Is Google Rigging Its Search Results?*, TIME (Dec. 2, 2010), http://www.time.com/time/business/article/0,8599,2034138,00.html; Miguel Helft, *Lawsuit Says Google Was Unfair to Rival Site*, N.Y. TIMES, Feb. 17, 2009, *available at* http://www.nytimes.com/2009/02/18/technology/internet/18google.html; Claire Cain Miller, *Texas Probes Google on Ranking of Search Results,* N.Y. TIMES, Sept. 4, 2010, at B3, *available at* http://www.nytimes.com/2010/09/04/technology/04google.html?adxnnl=1&adxnnlx=1314113487-4SfkO0V/SuFxNfcRMdHkbQ; *Companies Ask EU Commission to Step in on Google Search Ranking Complaint,* ITPROPORTAL (Feb. 24, 2010), http://www.itproportal.com/2010/02/24/companies-ask-eu-commission-step-google-search-ranking-complaint/; *Kinderstart Sues Google Over Lower Page Ranking*, USA TODAY, Mar. 19, 2006, *available at* http://www.usatoday.com/tech/news/2006-03-19-google-kinderstart_x.htm.

174. *See* Adam Raff, *Search, But You May Not Find,* N.Y. TIMES, Dec. 28, 2009, at A27, *available at* http://www.nytimes.com/2009/12/28/opinion/28raff.html. The author is the founder of a company that complained to the European Commission that Google's penalties for his site, Foundem, violated the EU's competition laws. *See also* James Grimmelmann, *Some Skepticism About Search Neutrality*, *in* ADAM MARCUS, THE NEXT DIGITAL DECADE: ESSAYS ON THE FUTURE OF THE INTERNET 435 (Berin Szoka, eds, 2010).

175. *See* RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 375–380 (4th ed. 1992).

In addition to criminal law and common law, governments have also adopted regulatory laws to deal with various actions that were not addressed sufficiently by common law. These range from the regulation of pollution, to lemon laws for the sale of used automobiles, to laws against cyber harassment. Many of these laws and regulations have been rationalized along the lines of modern welfare economics as solutions to market failures.[176]

The governance mechanisms for private multi-sided platforms mirror many of these laws and regulations. Multi-sided platforms have developed rules and enforcement mechanisms for dealing with negative externalities created by agents on their platforms.[177] These include efforts to keep platforms safe from sexual predators, cyber harassment, pornography, under-provision of information, market manipulation, fraud, misrepresentation, and opportunistic distortion of information.[178] Efforts to police platforms likely provide enormous social value, since some multi-sided platforms would provide significantly poorer service and perhaps not even be viable in the absence of efforts to control negative externalities.

The governance of negative externalities by multi-sided platforms nevertheless raises two public policy issues—anti-competitive exclusion and the benefits of private versus public regulation. Both issues result from the exercise of bouncer's rights to enforce rules to mitigate putative negative externalities. As previously explained, in the early days of the London Stock Exchange English courts prohibited the traders who rented the premises of Jonathan's Coffee House from excluding other traders.[179] However, the issue of exclusion is increasingly prominent as a result of several multi-sided platforms having created highly successful global businesses. These include Apple, eBay, Facebook, Google, Microsoft, NYSE/Euronext, and Visa.

A. THE BENEFITS OF PRIVATE REGULATION

An important question is whether privately owned multi-sided platforms should be allowed to operate private governance systems that include fines, exile, and jail-like punishment.[180] Facebook, for example, is regulating social

176. *See* W. KIP VISCUSI, JOSEPH E. HARRINGTON, JR. & JOHN M. VERNON, ECONOMICS OF REGULATION AND ANTITRUST 13 (4th ed. 2005).

177. *See supra* Part V.

178. *Id.*

179. *See supra* Section V.B.

180. Google's policy of taking websites that have violated their policy far down in the rankings is sometimes referred to as "Google jail." *See* Dave Johnson, *SEO Dirty Tricks That Can Land Your Company's Website in Google Jail*, CBS NEWS (Feb. 28, 2011), http://www.cbsnews.com/8301-505143_162-28650615/seo-dirty-tricks-that-can-land-your-companys-website-in-google-jail.

behavior for a community that has a population that is twice as large as the population of the United States. Should Facebook—a private enterprise—be regulating the pictures that users show to their friends or what users can say to each other?

This question highlights the tradeoff between public and private control because both mechanisms are imperfect.[181] On the one hand, public control is subject to a myriad of breakdowns in political and legislative processes, imperfections in the government institutions, and unintended consequences of rigid methods of control mandated by law. On the other hand, private control is problematic because for-profit firms—including multi-sided platforms—do not necessarily have incentives to maximize social welfare and may in fact have incentives to reduce social welfare.[182] As discussed below, a platform could even adopt rules as a pretext to exclude competitors.

Although for-profit firms do not necessarily have incentives to increase social welfare, multi-sided platforms have incentives to maximize the value of their platforms to the community because they obtain profit by extracting value from the platform. They also have incentives to reduce negative externalities. The review of multi-sided platforms above shows that many platforms have—in fact—erected sophisticated governance mechanisms to do so.

In assessing whether public or private control should govern multi-sided platforms, it is important to note that multi-sided platforms have several advantages over public regulators. They have more information on practices that may lead to negative externalities and the impact on the community. As private firms, multi-sided platforms can make decisions quickly on how to deal with negative externalities and modify practices quickly, especially if they observe unintended consequences. They also face fewer constraints—for better or worse—since they are not subject to due process or administrative procedure requirements. However, the platforms lack some of the investigative methods and penalties that a public enforcer would have.

The issue of public versus private control has recently come up in proposals for search neutrality.[183] Proponents of search neutrality proposals

181. *See* Simeon Djankov et al., *The New Comparative Economics,* 31 J. COMPAR. ECON. 595, 598 (2003).

182. *See* Alexander White & E. Glen Weyl, *Insulated Platform Competition* (NET Inst., Working Paper No. 10-17, 2011).

183. *See Making the Case for Search Neutrality*, SEARCH NEUTRALITY, http://www.searchneutrality.org/search-neutrality (Oct. 11, 2009); *Can Search Discrimination by a Monopolist Violate U.S. Antitrust Laws*?, FAIRSEARCH, http://www.fairsearch.org/wp-content/uploads/2011/07/Can-Search-Discrimination-by-a-Monopolist-Violate-U.S.-Antitrust-Laws1.pdf (last visited Apr. 10, 2012).

argue that the government should prohibit search engines from "manipulating" search results and that all search results should be presented based on a governmentally determined notion of relevance. These proposals are—not surprisingly—being advanced by websites that have had changes in their rankings as a result of manual downgrading or algorithmic changes.[184] Such proposals would limit multi-sided platforms' use of bouncer's rights to penalize websites that are trying to manipulate search rankings. These regulations would also limit search engine innovations to improve algorithms, because anyone whose rankings change could claim that the algorithm did not change neutrally. Thus government regulation could impose substantial social costs both by requiring potentially slow and expensive regulatory review and by making false-positive findings of "manipulation" based on differences in complex and potentially subjective judgments of "relevance."[185]

B. ANTI-COMPETITIVE EXCLUSION: A PROPOSED THREE-STEP ANALYSIS

When a firm is excluded from participating in a multi-sided platform it can incur significant harm. The excluded firm may decide to sue under antitrust laws and argue that the multi-sided platform uses significant market power to harm competition by excluding the firm from a relevant antitrust market. The court or competition authority will then need to decide whether the exclusion is anti-competitive or an efficient business response by the multi-sided platform. The multi-sided platform may explain that it has established efficient rules for reducing negative externalities and that it excluded the firm because the firm violated the rules the platform. That argument could be true as shown above, or it could be a pretext for anti-competitive exclusion. This article proposes a three-part test to help courts and competition authorities distinguish between efficient private governance and anti-competitive exclusion.

When a firm—especially one with significant market power—excludes another firm from the market, its actions may be subject to scrutiny under antitrust laws.[186] In the United States, exclusionary practices may violate Section 2 of the Sherman Act, which prohibits attempts to create or maintain

184. *See* Adam Raff, *Search, But You May Not Find,* N.Y. TIMES, Dec. 27, 2009, *available at* http://www.nytimes.com/2009/12/28/opinion/28raff.html.

185. *See* James Grimmelmann, *Some Skepticism About Search Neutrality*, *in* THE NEXT DIGITAL DECADE: ESSAYS ON THE FUTURE OF THE INTERNET (Berin Szoka & Adam Marcus eds., 2010).

186. *See* EINER ELHAUGE & DAMIEN GERADIN, GLOBAL ANTITRUST LAW AND ECONOMICS (Foundation 2d ed. 2011).

a monopoly. In certain circumstances, exclusionary practices may also violate Section 1, which prohibits unreasonable agreements in restraint of trade.[187] In the European Union, exclusionary practices could be considered abuses of dominance under the Article 102 TFEU.[188]

As antitrust has adopted a more economics-based approach, some aspects of exclusionary abuse claims have been viewed as problematic or at least controversial.[189] For example, U.S. courts have expressed skepticism over vertical restraint cases and monopoly leveraging.[190] Courts have generally rejected claims premised on the exclusion of a competitor from access to property owned by the defendant.[191] U.S. courts have also expressed skepticism over claims involving the exclusion of direct competitors such as those that stem from the improvement of a product.[192] In fact, they have raised the bar for some practices sufficiently high that they are effectively (if not literally) per se legal under the rule of reason. For example, it is extremely difficult for a plaintiff to establish that a rival has engaged in "predatory pricing"—that is the rival has "priced low" to drive out a rival and thereby monopolize a market.[193]

The European Union has also moved in this direction. The European Commission guidelines on enforcement priorities for Article 82 (now Article 102 TFEU) recognize that vertical and horizontal exclusionary practices should be subject to the rule of reason and that depending on the factual circumstances a firm with significant market power may not have the ability or incentives to foreclose a rival.[194] The European Union continues to

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187. *See* Sherman Antitrust Act, 15 U.S.C. §§ 1–2 (1890).

188. *See* Treaty on the Functioning of the European Union, art. 102, May 9, 2008, 51 OFFICIAL J. OF EUR. UNION 89 (2008).

189. The U.S. courts in particular have been influenced by the findings of economists that firms engage in vertical foreclosure practices for pro-competitive reasons. *See* Leegin Creative Leather Prods., Inc v. PSKS, Inc., 551 U.S 877 (2007); Brief for Economists as Amici Curiae Supporting Petitioner, Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877 (2007).

190. *See* HERBERT HOVENKAMP & PHILLIP E. AREEDA, FUNDAMENTALS OF ANTITRUST LAW (Aspen 3rd ed. 2004); ELHAUGE & GERADIN, *supra* note 186.

191. *See* Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S 398 (2003).

192. *See* Allied Orthopedic Appliances Inc., v. Tyco Health Care Group LP, 592 F.3d 991 (9th Cir. 2010).

193. Mark S. Popofsky, *Defining Exclusionary Conduct: Section 2, The Rule of Reason, and the Unifying Principle Underlying Antitrust Rules*, 73 ANTITRUST L. J. 435, 442–43 (2006).

194. *See* European Commission, Communication from the Commission—Guidance on Its Enforcement Priorities in Applying Article 82 (EC) to Abusive Exclusionary Conduct by Dominant Undertaking (Feb. 24, 2009), *available at* http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52009XC0224(01):EN:NOT. *See also* Steven C. Sunshine,

mandate access to essential facilities but imposes a significant burden of persuasion on the parties demanding access.[195]

Nevertheless, it is possible that firms with significant market power may engage in anti-competitive exclusion. The question addressed here is how to handle exclusionary conduct cases that result from the imposition of penalties on firms under established multi-sided platform governance systems.

A platform could invoke negative externalities in excluding a possible rival from access to its platform. If it does not have a governance system in operation, and exclusion of the competitor is based on an idiosyncratic decision rather than a systematic process for dealing with negative externalities, there is no reason—based on the analysis above—to evaluate the conduct differently than other exclusionary conduct allegations. The court should take the efficiency explanation offered by the defendant into account in weighing the pro-competitive and anti-competitive aspects of the practice, or in applying the otherwise applicable legal framework.[196]

It is now widely accepted that antitrust rules should take into account the costs and likelihood of making mistakes.[197] Rules that tend to absolve firms that have engaged in anti-competitive practices can encourage more firms to engage in these practices. Rules that tend to condemn firms for engaging in practices that are pro-competitive can deter firms from advancing social welfare.

That balance between false positives and false negatives is especially critical when the challenged action of the platform is taken pursuant to a pre-existing governance system. The fact that a firm is a platform and maintains a governance system for dealing with negative externalities provides a strong presumption that the firm is increasing social welfare by policing bad behavior pursuant to that governance system on its platform. That is likely to

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Deputy Assistant Attorney General, U.S. Dep't of Justice, Address at the American Bar Association Section of Antitrust Law: Vertical Merger Enforcement Policy (Apr. 5. 1995), *available at* http://www.justice.gov/atr/public/speeches/2215.pdf.

195. *See* Case C-7/97, Oscar Bronner GmbH & Co. KG v. Mediaprint Zeitungs, 1998 E.C.R. I-7791, ¶¶ 41–47 (holding that refusing access does not constitute abuse of a dominant position within the meaning of Article 86 of TFEU, even when there is only one nationwide newspaper home-delivery scheme, and even when the small circulation of rival newspapers renders it economically impossible to establish similar delivery schemes).

196. See the five part test in *United States v. Microsoft*, 253 F.3d 34 (D.C. Cir. 2001).

197. *See* ELHAUGE & GERADIN, *supra* note 186; HERBERT HOVENKAMP & PHILLIP E. AREEDA, FUNDAMENTALS OF ANTITRUST LAW (Aspen 3d ed. 2004); David S. Evans, *Why Different Jurisdictions Do Not (and Should Not) Adopt the Same Antitrust Rules*, 10 CHI. J. INTL. L. 161 (2009); Frederick Beckner III & Steven C. Salop, *Decision Theory and Antitrust Rules*, 67 ANTITRUST L. J. 41 (1999–2000).

be an extremely valuable service to the consumers on the various sides of the platform. The ability to exclude those who create negative externalities is critical to the functioning of that governance system and ultimately for the overall value of the platform.

Of course, it is possible that a platform has established or structured a governance system as a pretext for excluding competitors. A platform could establish rules that prohibit participants from relying on or interconnecting with other platforms. Prior to its break-up—for example—AT&T provided local and long-distance telephone service under public utility rate regulation and also had an unregulated equipment manufacturer.[198] It established rules concerning the interconnection of equipment and other services to its networks that it claimed were designed to ensure the integrity of the telephone system.[199] It has been argued that AT&T sometimes applied these rules to exclude competing equipment manufacturers and competing long-distance telephone service providers in violation of the antitrust laws.[200] To settle an antitrust case brought by the U.S. Department of Justice, AT&T agreed to divest its local operating companies and its equipment manufacturer.[201] Therefore, the existence of a governance system should not—by itself—preclude a finding of anti-competitive exclusion.

Nevertheless, the existence of a governance system increases the likelihood that the practice that results in exclusion is pro-competitive. Governance systems are common among platforms, are necessary for dealing with negative externalities, and can increase consumer welfare. To the extent there are serious negative externality problems on the platform, antitrust decisions that prohibit firms from engaging in pro-competitive exclusion would impose significant costs on the platform because the platform would be forced to weaken its enforcement mechanisms. Moreover, other platforms concerned with the risk of an antitrust suit will weaken their government systems to the overall detriment of platform customers.

The 1762 decision concerning Jonathan's Coffee House[202] illustrates the dangers of limiting the ability of private platforms to exercise bouncer's rights to regulate their platforms. As a result of the decision, the first London Stock Exchange had to adopt ineffective methods for dealing with negative externalities among members. It was not until forty years after the decision

198. *See* TIM WU, THE MASTER SWITCH: THE RISE AND FALL OF INFORMATION EMPIRES 57, 188–89 (2010).

199. *Id.* at 189.

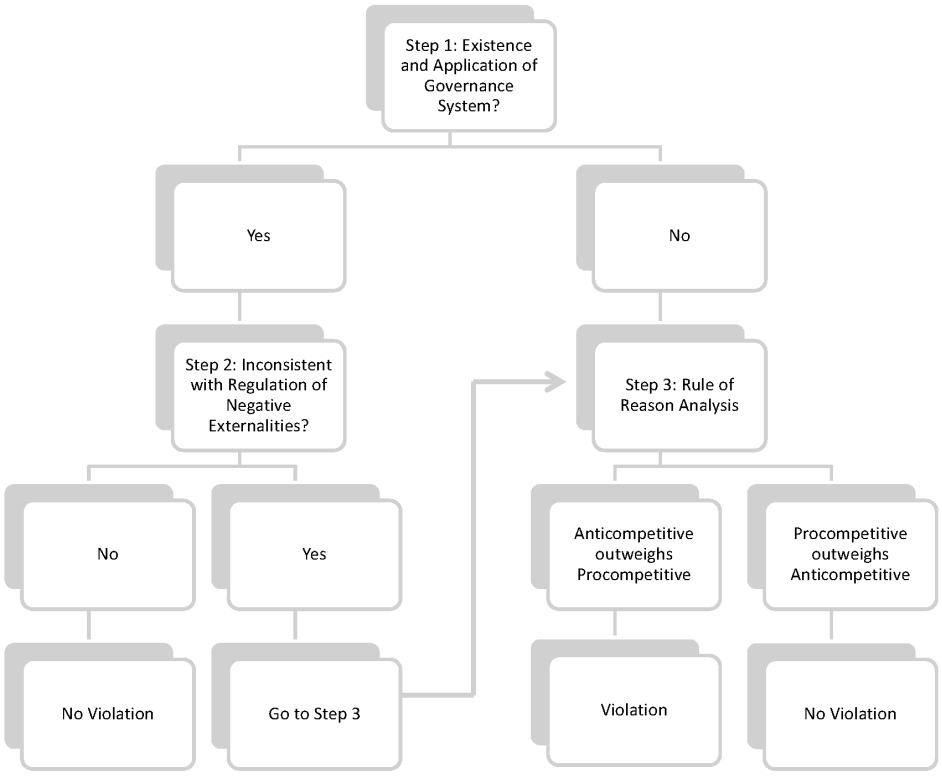
200. *Id.* at 108–09.

201. United States v. Western Elec. Co. Inc., 969 F.2d 1231 (D.C. Cir. 1992).

202. Oldham, *supra* note 141, at 185–86.

that the English stock exchange could effectively regulate bad behavior among its members.[203] The error-cost analysis of governance systems indicates that the standard rule of reason approach should be modified in the same way—and for similar reasons—it has been modified for other practices that are likely to be pro-competitive.[204] There should be a presumption that exclusion that results from an established governance system for dealing with negative externalities is pro-competitive. The plaintiff should bear the burden of persuasion of showing otherwise.

Figure 1



Based on these considerations this Article proposes a three-step test—summarized in Figure 1—for exclusionary behavior involving multi-sided platforms. This Article assumes the plaintiff has already met the usual burden

203. MICHIE, *supra* note 133, at 35.

204. *See* David S. Evans & A. Jorge Padilla, *Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach,* 72 U. CHI. L. REV 72 (2005). In this Article, I am focusing only on how existing antitrust rules should be modified given the existence of platform-based governance systems for dealing with negative externalities. I do not address whether existing rules are sound.

of establishing a relevant market and—as applicable—the potential for the challenged practice to raise price or restrict output. In the first step of the analysis—defending against the complainant's prima facie case—the platform should have the opportunity to demonstrate that it has established a governance system for dealing with negative externalities and that the practice at issue results from the exercise of that governance system. If the platform cannot do so, standard antitrust rules applicable to the practice at issue should apply (see step three). If the platform can do so, the analysis should move to the second step.

The second step should consider whether the exclusion is inconsistent with the use of the governance system to deal with negative externalities or whether the governance system itself has been established as a pretext for excluding competitors. The plaintiff should bear the burden of demonstrating that the governance system is not reasonably related to enforcement of the goals the governance mechanism is designed to achieve. The plaintiff may be able to show that the platform applied the rules differentially—excluding a competitor when it would not have ordinarily excluded the firm that allegedly violated the rules—or created a separate class of offenses that results in the exclusion of competitors. The plaintiff may also be able to show that the governance system is unrelated to the correction of negative externalities or established as a pretext for exclusion. The plaintiff's claim should be rejected unless the plaintiff can demonstrate that the practice is inconsistent with the mitigation of negative externalities. Otherwise the analysis should proceed to the third step.

The third step—arrived at if the defendant fails the first step or the plaintiff succeeds in the second step—would follow the standard antitrust analysis applicable to the challenged conduct at issue. In the United States, the third step would involve analyzing whether the practice (i) forecloses or raises rivals' costs in a manner that enhances the defendant's ability to raise price or restrict market output to the detriment of consumers and then (ii) weighing the anti-competitive and pro-competitive effects to determine whether the practice is, on net, anti-competitive. Under many circumstances, a successful showing by the complainant under step two would demonstrate the lack of pro-competitive effects.

As with any error-cost based approach, this three-step analysis cannot eliminate false positives and false negatives. The plaintiff might succeed in showing that the application of an exclusionary penalty is a pretext even though it is a valid attempt to eliminate a negative externality. A defendant might succeed in showing that an exclusionary penalty is part of a pro-competitive governance system when in fact it is designed to exclude a competitor and harm consumers. Nevertheless, the approach reduces the

likelihood and costs of errors in light of the role of governance systems in reducing negative externalities that would otherwise harm consumers.

VII. CONCLUSION

Although the business model has been around for millennia, multi-sided platforms have become particularly prominent since the advent of the commercial web.[205] The Internet and web technologies facilitate the creation of platforms for different types of users that would benefit from getting together.[206] As a result of scale economies and the ability to either replicate a platform across geographies, or to connect global communities, some of these platforms have become global players. These multi-sided platforms are likely to attract increasing attention from policymakers because of their economic and social significance. Several already have.

An essential feature of these platforms is that they promote positive externalities between members of the community. But as with any community, there are numerous opportunities for people and businesses to generate negative externalities that can reduce economic efficiency and—in the extreme—lead to the tragedy of the commons.

Most discussions of these platforms have focused on how multi-sided platforms create value by harnessing positive externalities and how positive network effects can result in the emergence of dominant platforms in particular categories. Much less attention has been given to the role these platforms play in mitigating negative externalities. As it turns out, many of these platforms have developed governance systems for dealing with bad behavior. These governance systems ultimately depend on the ability of the platform to exclude agents from some quantum of the platform, including prohibiting them from the platform entirely.

Exercising these exclusionary rights is controversial. The platform has to balance the interests of its multiple constituents. Rules concerning negative externalities—just as those involving positive ones—shift value between different sides. Like a polity, a platform must balance competing values, such as freedom of speech and protection from hate speech and other verbal harassment. The exercise of exclusionary rights to enforce rules can also lead to complaints by the excluded parties and in some cases lawsuits. The fact that a platform is engaging in exclusion as part of a governance system for dealing with negative externalities has important implications for the antitrust analysis of exclusion. "Exclusion" of actors who diminish the value of the

205. *See* Evans & Schmalensee, *supra* note 7, at 152.
206. *See* Evans & Schmalensee, *supra* note 5, at 5.

platform to all its constituents is prevalent, important, and beneficial. Antitrust analysis should therefore use exclusion based on a governance system for dealing with negative externalities as a shield for practices that are likely to be pro-competitive, and recognize that condemning the implementation of governance systems—as a general matter—is likely to create false positives. The three-step analysis proposed above would better balance the costs of false positives and false negatives in light of the common use of governance systems to mitigate negative externalities and increase consumer welfare in platform communities.

While both private and public control of bad behavior on platforms have their place, private control through a platform will often be superior to public control. The platform can identify problems more easily, can correct these problems with greater agility, and is in a better position to minimize the unintended consequences of rules. Private governance of multi-sided platforms increases platform value to constituent communities and facilitates growth, development, and innovation. These benefits of private governance should have an important place in the analysis of anti-competitive charges against a platform's efforts to govern its community.