STANDARD SETTING ORGANIZATIONS: ANSWER TO THE TRAGEDY OF THE ANTICOMMONS?

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I. INTRODUCTION:

In a 1998 article, professor Michael A. Heller, then professor of law at Harvard University, first set forth a hypothesis he referred to as the “tragedy of the anticommons.”¹ His theory, which is a mirror image of the “tragedy of the commons”² posits that “a resource is prone to underuse in a tragedy of the anticommons when multiple owners each have a right to exclude others from a scarce resource and no one has an effective privilege of use.”³ In essence, where several parties possess exclusive rights in a scarce resource, and it is costly, difficult or impossible for property rights holders to bundle these rights or to agree on how to apportion the resource, the resource will remain unutilized.⁴

² Id. at 622 (stating that the tragedy of the commons arises when “multiple owners are each endowed with the privilege to use a given resource, and no one has the right to exclude another. When too may owners hold such privileges of use, the resource is prone to overuse”).
³ Michael A. Heller & Rebecca S. Eisenberg, Can Patents Deter Innovation? The Anticommons in Biomedical Research. SCIENCE, May 1, 1998, at 698. (internal quotations omitted).
⁴ Id. (finding that “[i]n theory, in a world of costless transactions, people would always avoid commons or
The "tragedy of the anticommons" is applicable to intellectual as well as real property, and, in particular, to patent law. The argument is that when there are too many intellectual property rights, exclusionary rights, blocking patents, and high transaction costs will stifle innovation. More accurately, when several parties own patents covering a certain technology, process or invention, each can exercise their exclusive rights to prevent others from using, developing or marketing that technology, process or invention. Therefore, where it is too costly to reach an anticommons tragedies by trading their rights. In practice, however, avoiding tragedy requires overcoming transaction costs, strategic behaviors, and cognitive biases of participants, with success more likely within close-knit communities than among hostile strangers. Once an anticommons emerges, collecting rights into usable private property is often brutal and slow.

licensing agreement, the technology, process or invention remains undeveloped.⁶

Various industries have developed methods of circumventing the problem of transaction costs where the “tragedy of the anticommons” poses a threat to stifle development and innovation.⁷ In the semiconductor industry, standard setting organizations have been an effective system for alleviating the burden high transaction costs and individual licensing schemes. By collectively agreeing upon

⁶ See e.g. Heller & Eisenberg, supra note 3, at 698 (finding that proliferations of patent rights may stifle innovation in the biomedical industry); LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD 215 (Random House, Inc. 2001) (finding that “multiple and overlapping patent protection may create an anticommons,” and that “innovators are afraid to innovate in a field [with extensive and overlapping patent rights] because too many people have the right to veto the use of a particular resource or idea”) (citing James M. Buchanan and Yong J. Yoon, Symmetric Tragedies: Commons and Anticommons, JOURNAL OF LAW & ECONOMICS 43 (2000)).

a certain standard which the industry will adopt, and by either (1) ensuring, through patent disclosure requirements, that no member of the standard setting organization possesses a patent in the targeted technology, or (2) requiring mandatory licensing of any relevant patents covering the industry standard, standard setting organizations permit the industry to adopt a standard without the burden of individual cross-licensing and negotiation that stifle innovation and the development of new technologies. Thus, by reducing transaction costs, standard setting organizations nullify the “tragedy of the anticommons” and promote product development.

Although standard setting organizations alleviate the “tragedy of the anticommons,” -- while also providing other benefits -- they raise antitrust problems. If improperly structured or regulated, standard setting organizations can form the platform for collusive behavior and facilitate tacit

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price fixing. Moreover, depending on the structure of the organization, strategic patent use may afford one company a monopoly over the chosen industry standard, and therefore, the entire industry.

In addition to these anticompetitive threats, standard setting organizations may also prove to stifle overall innovation. Traditionally, competitive firms compete not only on price, but also on the quality and diversity of their products. If someone builds the better mousetrap, consumers will buy it if the benefit it bestows surpasses its additional costs. However, when an entire industry adopts a single technology, and forgoes other alternatives, only one or a few potential products reach the market. Therefore, by agreeing on a certain course to pursue, standard setting organizations may deter innovation by foregoing other potentially beneficial or superior technologies. Moreover, standard setting members can further hinder innovation by entrenching the chosen standard so as to thwart entry of any competing technologies.

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9 See infra pp. 15-20.
10 See infra pp. 29-32.
11 See infra pp. 20-29.
12 See infra pp. 32-34.
As of now, it is uncertain whether the benefits of standard setting organizations (i.e. reducing the barrier of transaction costs, reducing duplicative research costs, and permitting compatibility and interoperability across an entire industry) ultimately prove to outweigh the anticompetitive and anti-innovative problems they raise. However, recent cases, including the Dell consent decree and Rambus, Inc. v. Infineon, Inc. 164 F.Supp.2d 743 (E.D. Va. 2001), and Micron Technology, Inc. v. Rambus, Inc., No. 1:00cv-792 (D. Del. filed Aug. 28, 2000), demonstrate that while standard setting organizations prove a necessary tool in certain industries, the overall perils of standard setting, especially where horizontal competitors are involved, mandate critical antitrust scrutiny and lend to the conclusion that such standard setting organizations should be

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13 Since standard setting organizations can take on several forms, and because the Rambus litigation involved firms in a particularly relevant market (i.e. the semiconductor industry), the Rambus line of litigation and the standard setting organization found at the heart of the dispute serves as an excellent example of both the benefits and perils associated with standard setting organizations. Therefore, the Rambus case and the standard setting organization associated with the case, the Joint Electronics Devices Engineering Counsel (JEDEC), will be periodically referenced throughout this article as a general model for standard setting organizations as a whole.
rarely utilized and heavily regulated.\textsuperscript{14} If properly structured and regulated, standard setting organizations can promote innovation without the fears of anti-competitive behavior.

II. THE TRAGEDY OF THE ANTICOMMONS AND INTELLECTUAL PROPERTY RIGHTS:

In a visit to post-socialist Moscow, professor Michael A. Heller made a startling discovery. He found many storefront windows were completely empty, while kiosks on the city streets were overflowing with merchandise.\textsuperscript{15} Confused but intrigued by this phenomenon, professor Heller questioned this apparently wasteful and counterproductive practice. Heller discovered that the storefronts remained unused not because they were unsuitable, but because of the way that the...

\textsuperscript{14} For a contrary argument, see Michael G. Cowie & Joseph P. Lavelle, Patents Covering Industries Standards: The Risks to Enforceability Due to Conduct Before Standard-Setting Organizations, AIPLA QUARTERLY JOURNAL at 102 (2002) (finding that antitrust scrutiny is undesirable because it disincentivizes participation in standard setting organizations and thereby stifles innovation); Kanno & Gonzalez, supra note 8, at 386 (stating that “[i]n fear of losing the exclusive ruights to exploit their intellectual property, inventors are becoming more and more reluctant to join industry standards-setting organizations.”).

\textsuperscript{15} Heller, supra note 1, at 622.
post-socialist government created property rights in those storefronts. More accurately, Heller concluded that:

Transition regimes have often failed to endow any individual with a bundle of rights that represents full ownership of storefronts or other scarce resources. Instead, those regimes have ratified the expectations of powerful socialist-era stakeholders by making them rights-holders in the new economy. Rights were made alienable on the hope that new owners would trade them to more productive users. In a typical Moscow storefront, one owner may be endowed initially with the right to sell, another to receive sale revenue, and still another to lease, receive lease revenue, occupy and determine use. Each owner can block the others from using the space as a storefront. No one can set up shop without the consent of all the other owners.

Heller later designated this phenomenon “the tragedy of the anticommons.”

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16 Id. at 623.
17 Id.
18 Id. at 624 (explaining that “when multiple owners are each endowed with the right to exclude others from a scarce resource, and no one has an effective privilege of use,” and
Heller’s later analyzed the “tragedy of the anticommons” in connection with intellectual property. In a 1998 issue of *Science*, Heller penned an article addressing the “tragedy of the anticommons” and the effect intellectual property rights possess on innovation in the biomedical industries. Applying his theory of the “anticommons” to the biomedical research fields, Heller concluded that “privatization of biomedical research offers both promises and risks. It promises to spur private investment but risks creating a tragedy of the anticommons through a proliferation of fragmented and overlapping intellectual property rights.” Thus, as with the storefronts of post socialist Moscow, where a multitude of property owners possessed the ability to exclude others from utilizing the store space, proliferations of intellectual property rights and high transaction costs threaten to leave certain inventions and technologies unutilized and undeveloped in industries with extensive intellectual property portfolios. This, in turn, harms

“[w]hen there are too many owners holding rights of exclusion, the resource is prone to underuse....”).

19 Heller & Eisenberg, supra note 3, at 698.

20 Id. at 701 (internal quotations omitted).
society as many inventions and technologies remain undeveloped.21

III. STANDARD SETTING ORGANIZATIONS:

A. STRUCTURE OF STANDARD SETTING ORGANIZATIONS:

Before examining how standard setting organizations alleviate the “tragedy of the anticommons,” and create serious innovation and antitrust concerns, it is first important to discuss how these organizations are structured and function.

First, a standard has been broadly defined as “any set of technical specifications that either provides or is intended to provide a common design for a product or process.”22 When a standard setting organization adopts a

21 The “tragedy of the anticommons” poses a serious threat of stifling innovation in the semiconductor industry. For a discussion of the effects of standard setting organizations in the computer-networking and telecommunications fields, see generally Lemley, supra note 7; Robert P. Taylor, supra note 8, at 548 (“Much of standard setting today involves information technologies -- electronics and software products in which data transfer interfaces become a fundamental requirement for products to communicate with one another ... [w]ithout these precisely defined [and standardized] interfaces, many aspects of the computer and electronics industries would resemble a tower of Babel, with little or no cooperation among participants and many proprietary stand-alone systems.”).

22 Lemley, supra note 7, at 7-8.
standard, therefore, the organization is attempting to create a single, uniform set of specifications that form the basis of the industry standard. This standard then allows the industry to produce a uniform product that is both compatible and interoperable with competing and complementary products.\textsuperscript{23}

Next, standard setting organizations may take many forms and compositions,\textsuperscript{24} with the typical standard setting organization involving “competing manufacturers [who] confer with one another -- often with customers and suppliers included\textsuperscript{25} -- to establish standards....”\textsuperscript{26} Regardless of the actual composition of the standard setting organization, “[n]early all [standard setting organizations] publish some sort of regulations regarding the adoption of patented technology into a standard. Generally speaking, these

\begin{footnotesize}
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\item Lemley, supra note 7, at 7.
\item Standard setting organizations may also include firms from complimentary industries -- that is, industries that produce compatible products (e.g. Compact Disk Player industry and Compact Disk industry).
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regulations are of two types: (1) regulations requiring disclosure of patents covering a proposed standard; and (2) regulations requiring parties to grant licenses to a standard on reasonable and nondiscriminatory terms." The general purpose of standard setting regulations "is to prevent a standards participant from gaining exclusive control over a standard ... [by requiring] some sort of disclosure of patents that cover a standard being considered by the [standard setting organization]." With full disclosure of the standard setting participants’ patents, the organization can then determine whether to adopt a patented technology or to pursue a standard unencumbered by any pre-existing intellectual property rights. If the standard setting organization chooses to adopt a standard covered by a particular participant’s pre-existing patent, then the standard setting organization will usually require the member possessing the patent to license the technology on reasonable and nondiscriminatory grounds. These measures allow an

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26 Taylor, supra note 8, at 547.
27 Cowie & Lavelle, supra note 14, at 100 (internal quotations omitted). See also supra Taylor, note 8, at 549; Kanno & Gonzalez, supra note 8, at 377.
28 Id.
29 Id.
30 Id.
industry laden with blocking patents and overlapping exclusionary property rights to develop a standard technology without the additional costs of multiple, individual licensing negotiations or the fears of infringement suits or industry “hold-up.”

Examination of a typical standard setting organization, the Joint Electronics Device Engineering Counsel (JEDEC), exemplifies the form and function of standard setting organizations. “JEDEC [was] a semiconductor industry association, which require[ed] its members to disclose their patents and patent applications to the organization to prevent unknowing standardization of a patented technology.”

JEDEC was comprised of several firms, including Infineon, Micron and Rambus, that performed a variety of functions. Rambus, for example, is a technology firm that designs, patents and licenses, but does not manufacture, computer memory systems, while Infineon and Micron, among many things, manufacture and sell semiconductor devices containing computer memory technology such as that offered by Rambus.

In determining to adopt a memory technology, and thereby standardize the semiconductor industry, members of JEDEC,

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31 Kanno & Gonzalez, supra note 8, at 380.
such as Infineon and Micron, and companies producing products and technologies related to the semiconductor industry, such as Rambus, met, disclosed their relevant patents, and determined the proper memory technology with which to standardize the semiconductor industry.\(^3\) This memory technology was then the standard for, and included in, all semiconductors manufactured and sold by JEDEC’s constituency.\(^4\)

**B. BENEFITS OF STANDARDIZATION:**

It has been said that “[w]ithout standardization there wouldn’t be a modern economy.”\(^5\) This cryptic assessment explains little, but emphasizes the importance of standardization and standard setting organizations. Generally speaking, however, standardization provides a myriad of benefits which may roughly be categorized as:

1. Lower transaction and production costs.
2. Increased consumer welfare.

\(^3\) *Id.*
\(^4\) *Id.* at 748.
\(^5\) Lemley, *supra* note 7, at 748. See also Kanno & Gonzalez, *supra* note 8, at 748 (stating that “[h]igh technology industry standards setting organizations provide consumers with the most efficient, interoperable technology in the market.”).
(3) Interoperability and compatibility.\textsuperscript{36}

1. **Lower Production Costs:**

As seen from the discussion on how standard setting organizations function, their primary purpose and end result is to reduce transaction costs and prevent market “hold ups” byconcertedly pursuing a standard in which no firm possesses intellectual property rights or by adopting a patented standard with a reasonable, non-discriminatory licensing scheme.\textsuperscript{37} This process then reduces production costs by reducing or eliminating the costs associated with negotiating individual licenses. Moreover, standard setting organizations reduce production costs by reducing the overall industry costs of research and development. When a standard is adopted, redundant research is obviated as the entire industry, for a reasonable licensing fee, can utilize technology developed by another firm. Conversely, if the standard setting organization adopts an unpatented standard, there is no need for licensing and transaction and production costs are decreased even further.\textsuperscript{38}

\textsuperscript{36} Taylor, supra note 8, at 547.
\textsuperscript{37} See supra pp. 12-17.
\textsuperscript{38} Kanno & Rodriguez, supra note 8, at (“The purpose of [standard setting organizations] is to encourage new developments and eliminate anti-competitive markets by requiring their members to disclose their patents or pending
In essence, by reducing transaction costs, standard setting organization have solved the "tragedy of the anticommons." As stated previously, professor Heller’s metaphor theorizes that "a resource is prone to underuse in a tragedy of the anticommons when multiple owners each have a right to exclude others from a scarce resource and no one has an effective privilege of use." Where several parties possess exclusive rights in a scarce resource, and it is costly or difficult for property rights holders to bundle these rights or to agree on how to apportion the resource, the resource will remain unutilized. Standard setting organizations circumvent the problem of high transaction costs and exclusionary intellectual property rights, which

applications to the organization and its members. In addition, most organizations require owners of industry standard patents to license their technology to members for a reasonable fee ...."


40 See Id. (“In theory, in a world of costless transactions, people would always avoid commons or anticommons tragedies by trading their rights. In practice, however, avoiding tragedy requires overcoming transaction costs, strategic behaviors, and cognitive biases of participants, with success more likely within close-knit communities than among hostile strangers. Once an anticommons emerges, collecting rights into usable private property is often brutal and slow.”)
theoretically would lead to an underutilization of resources or technologies by either (1) requiring reasonable and nondiscriminatory licensing or (2) choosing to adopt an unpatented standard so that exclusive rights do not discourage innovation. Therefore, through the use of patent disclosure, the fears of market “hold ups” and the “anticommons” are alleviated in industries where, without the standard setting organization, high transaction costs and exclusionary intellectual property rights could result in undeveloped technologies.

2. Increased Consumer Welfare:

Standardization increases consumer welfare by (1) reducing costs to consumers and (2) improving product quality.

First, as discussed above, by reducing transaction and production costs, standardization enables each member of the standard setting organization to produce its product or technology less expensively. The savings should thereby be passed on to consumers in the form of reduced prices. Standardization therefore reduces costs to consumers by allowing manufacturers to produce goods and technologies at
reduced costs which, through the machinery of a competitive market place, should result in reduced costs to consumers.\footnote{See also Balto, supra note 23, at 2 (finding that, additionally, standardization “can increase price competition because standard technologies and products can be more readily compared and contrasted”).}

Second, standardization allows an industry to produce higher quality goods.\footnote{Kanno & Gonzalez, supra note 8, at 377.} It has been suggested that, out of necessity, standard setting organization will adopt the best, or the “cutting edge”, technology as the industry standard so as to satisfy consumer demand.\footnote{Janice M. Mueller, Patent Misuse Through the Capture of Industry Standards, BERK. J. TECH. 623, 649 (2002) (“Standards in ... high-tech industries must be based on the leading edge technologies. Consumers will not buy second best products....”; Kanno and Gonzalez (“High technology industry standards setting organizations provide consumers with the most efficient, interoperable technology in the market.”).} Therefore, standardization not only results in reduced costs, but in increased product quality as well.

3. Compatibility/Interoperability:

Compatibility and interoperability, both by-products of standardization, benefit society in different fashions.

First, standardization promotes compatibility with
complementary and networking products. As Samuel R. Miller explains, in his article Antitrust and Standard-Setting:

Compatibility standards are essential if products and their components are to be used in a system. Computers need software, compact disc players need compact discs, televisions need programs, and bolts need nuts. Compatibility standards define the format of the interface between the core and complimentary good, so that for example, compact disc players from any manufacturer may use compact discs from any music company. 

Thus, compatibility makes life easier for consumers because they can purchase one, standardized product that is compatible with all complementary products and services. A consumer can therefore purchase a single, standardized product rather than having to purchase multiple products, each of which is compatible with only a limited number of complementary products.

Second, standardization allows for interoperability. Interoperability can be defined as “the capacity of products of one vendor to communicate or interface with the products

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44 Miller, supra note 23, at 572.
45 Id.
of competing suppliers...”\textsuperscript{46} The need for interoperability is evident in the modem and cellular phone industries.\textsuperscript{47} If cellular phones, produced by competing firms, were not capable of operating with each other (i.e. interoperating) then the owner of a Motorola cellular phone could only connect with other Motorola phones. If modems were not interoperational, then only computers with the same modems could connect. Without interoperability, networks such as these cease to function because communication is seriously hindered, limiting interaction to sub-groups possessing identical brands. Interopertability therefore bestows an invaluable benefit in allowing competing products to operate with each other.

\textbf{C. STANDARD SETTING ORGANIZATIONS AND THEIR ANTITRUST IMPLICATIONS:}

While standard setting organizations help solve the “tragedy of the anticommons,” they also raise substantial antitrust concerns. Although it is argued that antitrust deters participation in standard setting organizations, by threatening to render unenforceable patents covering industry standards as the result of antitrust violations or patent misuse, it is imperative that standard setting organizations

\textsuperscript{46} Balto. \textit{supra} note 23, at 1.

\textsuperscript{47} Cite to the FTC article about interoperability.
-- especially those involving horizontal competitors -- be subject to antitrust scrutiny. Once it is accepted that antitrust is integrally intertwined with the standard setting process, it is important to examine the antitrust issues created by standards setting organizations (i.e. monopolization and attempted monopolization, collusion and tacit price fixing, and exclusionary practices) to determine whether, overall, the antitrust concerns outweigh the benefits conferred by standard setting organizations.

1. Monopolization and Attempted Monopolization:

48 Cowie & Lavelle, supra note 14, at 102 ("...participants in standard-setting activity face a different concern regarding patent rights. It is increasingly common in patent litigation for defendants to assert that the plaintiff’s patent is unenforceable or that the plaintiff violated the antitrust laws as a result of the patent holder’s alleged violation of the patent rules of some [standard settling organization]. There are undoubtedly legitimate anticompetitive issues raised in some of these cases. However, it is equally true that the continued assertion of this standards defense, as it is often called, in cases where the [standard setting organization] rules are unclear is threatening to chill legitimate standard-setting activity. At least some firms are beginning to question whether participation in [standard setting organizations] is justified, given the cloud that may be placed on the firm’s intellectual property.") (internal quotations omitted).
Pursuant to the Sherman Act § 2,49 attempted monopolization requires (1) specific intent to destroy competition, (2) anticompetitive conduct, (3) a dangerous probability of achieving monopoly power, and (4) antitrust injury to consumers.50 Monopolization, under § 2 of the Sherman Act, on the other hand, requires a showing that (1) the defendant possessed monopoly power, (2) engaged in anticompetitive behavior, and (3) caused antitrust injury.51 Unlike, attempted monopolization, monopolization claims do not require proof that the defendant had an intent to harm competition, but do require that the monopolist possess monopoly power in the relevant industry at the time the anticompetitive conduct occurred.52

In the standard setting arena, claims of monopolization and attempted monopolization, brought either privately or by government agencies, typically involve a standard setting organization participant’s failure to disclose patents in

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49 15 U.S.C. § 2 ("Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several states, or with foreign nations, shall be deemed guilty of a felony...").

50 Cowie & Lavelle, supra note 14, at 118.

51 Id. at 119.

52 Id.
compliance with the organization’s bylaws and guidelines. If a standard setting participant fails to disclose a patent covering a standard which the organization later adopts, the non-disclosing participant can “hi-jack” the industry standard by later asserting his intellectual property rights. The other participants, who may have already adopted the standard and initiated production of goods incorporating the standard, will then have to pay what will

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53 Taylor, supra note 8, at 551-552. See also e.g. Rambus, Inc. v. Infineon, Inc. 164 F.Supp.2d 743, 747 (E.D. Va. 2001), Micron Technology, Inc. v. Rambus, Inc., Civ. No. 1:00cv-792 (D. Del. filed Aug. 28, 2000), Hyaundae Electronics v. Rambus Inc., Civ. No. 5:00cv20905 (N.D. Cal., filed Aug. 29, 2000); In re Dell Computer Corp., 121 F.T.C. 616 (May 20, 1996) (Consent Decree);

54 Miller, supra note 23, at 576 (“[A]nti-competitive harm can result if the standard-setting process is hijacked.”); Janice M. Mueller, Patent Misuse Through the Capture of Industry Standards, in BERKELEY TECHNOLOGY LAW JOURNAL at 623 (2000) (stating that “[i]ndustry standards are subject to capture when firms that participate in formulating a standard have also obtained [or are seeking] patent or other proprietary rights in some aspect of the technical subject matter of the standard, without disclosing the existence of those rights to the standard-setting organization. Conflicts arise when a license under these patents is essential to practicing a standard and the patent owner refuses to license to certain competitors, or grants licenses only at terms perceived by users as commercially unreasonable. Absent a mechanism to compel licensing, a hold-up problem ensues.”) (internal quotations omitted).
most likely be an exorbitant licensing fee or, conversely, adopt a different standard and absorb the costs and losses associated with having manufactured an infringing product.\textsuperscript{55} In either case, a standard setting participant’s failure to disclose standard covering patents can effectively give that party control over the industry, once the industry has adopted the standard over which the participant possesses a patent, by effectuating its exclusionary property rights or requiring an unreasonable licensing fee. Thus, a claim for attempted monopolization can be sustained if a plaintiff can prove that the non-disclosing participant (1) intended to monopolize the industry standard by failing to disclose its standard covering patent, (2) willfully failed to disclose the standard covering patent, (3) had a dangerous probability of gaining a monopoly over the industry standard as the result of the non-disclosure, and (4) the non-disclosure injured, or would imminently injure, competition and consumers as a whole.\textsuperscript{56} Moreover, a plaintiff can succeed on

\textsuperscript{55} It is important to note that this latter option defeats the primary purpose of standard setting -- industry standardization -- and as such, proves to be an undesirable option.

\textsuperscript{56} It is often difficult for plaintiffs to prove specific intent and attempted monopolization claims often fail. See e.g. Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447 (1993)
a monopolization claim by proving (1) the non-disclosing participant possessed market power at the time of non-disclosure, (2) the non-disclosure constituted anti-competitive behavior, and (3) the non-disclosure injured competition. 57

Two series of litigation effectively demonstrate how patent disclosure can be strategically manipulated for anti-competitive purposes. More precisely, the Dell FTC consent decree, and Rambus v. Infineon and Rambus v. Micron, demonstrate that government agencies and private litigants are willing to pursue antitrust claims and, if necessary, that courts will refuse to enforce a non-disclosing participant’s standard covering patent. 58 First, in the Dell

(holding that the petitioners were “not be liable for attempted monopolization under § 2 of the Sherman Act absent proof of ... specific intent to monopolize.”)

57 Monopolization claims also often fail because it is typically very difficult to prove market power at the time of the non-disclosure. See Cowie & Lavelle, supra note 14 at 120.

58 Courts may refuse to enforce a valid standard covering patent, when a standard setting participant fails to disclose the patent in compliance with the organization’s bylaws, on the grounds of (1) antitrust violations, (2) patent misuse, or (3) fraud. See Cowie & Lavelle, supra note 14 (discussing (1) standard-setting misconduct and antitrust enforcement, (2) fraud and (3) the doctrine of Infectious Unenforceability).
litigation, the Federal Trade Commission (FTC) challenged Dell Computer’s attempt to collect royalties on a patent that allegedly covered the VESA Bus standard, a standard adopted and utilized by members of VESA (Video Electronic Standards Association). According to the FTC and members of VESA, Dell, a participant of VESA at the time VESA adopted the VESA Bus standard, deliberately withheld, in contravention of VESA’s disclosure guidelines, disclosure of a patent that covered the VESA Bus Standard. Once VESA members adopted and implemented the standard, Dell then attempted to enforce its patent and collect royalties from each of the infringing companies. After investigation by the FTC and Department of Justice for violations of the antitrust laws, including unfair competition, monopolization and attempted monopolization allegations, and because Dell had “intentionally failed to disclose [its] patent rights while [the] industry standard was under consideration,” Dell ultimately agreed not to enforce any patent with respect to a VESA industry standard for a period of ten years. While potential unfair competition, monopolization and attempted monopolization claims were never addressed, the Dell

litigation makes it clear that standard setting organizations may present serious problems when participant attempts to “hi-jack” the industry standard by failing to disclose a standard covering patent.⁶⁰

Another example of the monopolization problems that arise when a standard setting participant fails to disclose patents, or in this case, patent applications, is the Rambus line of litigation. In Rambus v Infineon and Rambus v. Micron, members of the standard setting organization, JEDEC (Joint Electronic Devices Engineering Counsel), which included Infineon and Micron, alleged, among other things, that Rambus attempted to monopolize and actually had monopolized the dynamic random access memory (DRAM) industry. In general, Rambus, also a member of JEDEC, owned and had disclosed is patents under a DRAM known as RDRAM (Rambus

⁶⁰ The Dell litigation revolved around violation of the Federal Trade Commission Act (FTCA) § 5 for unfair methods of competition. Id. However, while the facts of the case made it uncertain whether Dell had the specific intent to monopolize or that Dell possessed monopoly power over the relevant market, the Dell litigation demonstrated that government antitrust enforcement agencies are concerned with standard setting organizations’ antitrust implications. See also Daniel I. Prywes, Patent Ambushes and Licensing in Computer Standard Setting Groups, ANTITRUST REPORT (2001), available at http://www.pepperlaw.com/pepper/show_article.cfm.
Dynamic Access Memory) but failed to disclose patent applications covering SDRAM (Synchronous Dynamic Random Access memory). JEDEC adopted SDRAM as the industry standard and, after JEDEC’s members incorporated SDRAM in their new line of semiconductors, Rambus sought royalties from firms implementing the SDRAM technology. JEDEC participants who had adopted the SDRAM standard now could either (1) adopt the JEDEC SDRAM standard and pay Rambus an exorbitant royalty, or (2) adopt Rambus’s RDRAM standard which was also offered at an exorbitant fee. Micron and Infineon then alleged that by failing to disclose its patent applications, Rambus attempted, or alternatively, actually had obtained monopoly power over the DRAM industry. However, while the monopolization and attempted monopolization claims were never litigated in the Infineon case, primarily because Infineon’s attorneys failed to adequately demonstrate the proper geographical market as required by the Sherman Act § 2, these cases demonstrate the potential monopolization problems standard setting organization create when a participant fails to disclose patents in compliance with the standard setting organization’s bylaws.

2. Collusion, Price Fixing and Exclusionary Practices:
Standard setting can also provide a forum for collusion, either tacit or explicit.\textsuperscript{61}

The Sherman Act § 1 states, in part, that “[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is declared to be illegal.”\textsuperscript{62} Thus, when two or more parties conspire to unreasonably restrain trade or commerce among or between the states, Sherman Act § 1 is violated.\textsuperscript{63} This collusion, however, can take many forms, ranging from explicit, hard core price fixing, to implicit collusion resulting in tacit price fixing or exclusionary practices. In the standard setting arena, where organizations are typically comprised of horizontal competitors, there exists an excellent forum for

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\textsuperscript{61} Balto, supra note 23, at p. 2. See also Allied Tube & Conduit Corp. v. Head, Inc., 486 U.S. 492, 500 (1988) (stating that “[a]greement on a product standard is, after all, implicitly an agreement not to manufacture, distribute or purchase certain types of products. Accordingly, private standard-setting associations have traditionally been objects of antitrust scrutiny”).


\textsuperscript{63} Courts have long required a showing that the restraint of trade be “unreasonable” prior to imposing antitrust sanctions on an alleged antitrust violator. See e.g. N.C.A.A. v. Board of Regents of the University of Oklahoma, 486 U.S. 85, 90
collusion and as such, a great potential for collusive behavior.

First, standard setting organizations increase the potential for hard-core price fixing. More accurately, since participants of standard organizations meet to determine industries standards, it is easy for these participants, upon adopting a standard to explicitly agree on a standard price to charge for products incorporating the standard. These explicit price fixing agreements violate Sherman Act § 1 and have the potential to injure society through higher, non-competitive prices.

(Stating that the “Sherman Act was intended to prohibit only unreasonable restraints of trade”) (emphasis added).

Hard-core price fixing cases involve horizontal competitors who expressly agree to fix a maximum or minimum price or divide a relevant geographic market. Such agreements invariably result in reduced output and increased prices.

See Milton Handler et al., Trade Regulation, at 223 (Robert C. Clark et al. eds., The Foundation Press, Inc. 1997) (1975) (finding that “the principal objection to cartels is not that they make their creators rich, but that they distort resource allocation generally, thereby making society poorer. In other words, by raising prices or inhibiting entry, cartels tend to permit fewer resources to be used in their trade than free consumer and producer choice would dictate ... [and therefore], cartel earnings can be higher than competition would permit.”).
Second, in the absence of an explicit agreement to set prices, standard setting organizations facilitate tacit collusion and price fixing. Standard setting, by its very nature, results in several horizontal competitors producing an identical or similar product. Such similarity, in turn, often results in uniform or similar marginal costs of production for these competitors. Since it is well established that fungible goods facilitate tacit price fixing, standard setting organizations, by creating more or less fungible products, enable competitors to more easily set

66 See e.g. Balto, supra note 23, at 2 ("Standard setting can also provide a forum for collusion, either tacit or explicit); United States v. Paramount Pictures, Inc., 334 U.S. 131, 142 (1948) ("It is not necessary to find an express agreement in order to find a conspiracy. It is enough that a concert of action is contemplated and that the defendants conformed to the agreement."); Interstate Circuit, Inc. v. United States, 306 U.S. 208, 213 (1939) (finding that "[a]n unlawful conspiracy may be and often is formed without simultaneous action or agreement on the part of the conspirators"); Miller, supra note 23, at 575 (finding that "standardization might deprive some customers of a desired product, eliminate quality competition, exclude rival producers, or facilitate oligopolistic pricing by easing rivals' ability to monitor each others' prices").

67 This assumption overlooks differences in production capabilities and marketing and distribution costs, but stands for the general premise that uniform products tend to have uniform or similar production costs.
prices through signaling or other methods. As with explicit price fixing, tacit price fixing has the same potential of vastly increasing costs to consumers.

Finally, “a competitor or group of competitors may attempt to select a standard designed to preclude the use or acceptance of another’s product, [and] may unfairly exclude a competitor from the standard-setting organization, or from the information needed to apply the standard.” Such collusion among standard setting entities pose a serious threat to competition because “[w]here competitors collude to keep a product, particularly an innovative product, from reaching the market, competition is harmed.” Therefore, where members of a standard setting organization purposely agree to adopt a standard so as to block an advanced, innovative standard, or where they conspire to exclude a competitor from entry into or information necessary to participation in the standard setting organization, and thereby exclude that competitor from the standardized market, antitrust concerns arise.

68 Handler, supra note 65, at 522 (“When rivals sell identical products, the number of variables for which an agreement must account is reduced, again facilitating agreement and making cheating more difficult to find.”).
69 Balto, supra note 23, at 2.
70 Id.
D. STANDARD SETTING ORGANIZATIONS AND INNOVATION:

Standard setting organizations both encourage and deter new developments and innovation. As indicated previously, standard setting organizations “provide consumers with the most efficient, interoperable technology in the market”\(^{71}\) by helping firms hatchet through the “patent thicket”\(^{72}\) which, due to excessive transaction and licensing costs, would prohibit innovative products from reaching the market. Generally, in industries such as the semiconductor market, competitors possess so many patents that a great deal of cross licensing must occur before any one member can produce a standardized product. Standard setting organizations allow industries such as these to circumvent the excessive and tedious process of cross-licensing and in doing so, allows for innovative products, that otherwise would not have been developed, to come to market. Society is therefore better off.

However, standard setting organizations can also have a negative impact on innovation. More precisely:

Standard setting can thwart innovation or entrench an older standard when a newer or better, or more

\(^{71}\) Kanno & Gonzalez, supra note 8, at 377.
\(^{72}\) See Shapiro, supra note 7.
widely accepted technology is available. A new standard renders, to some extent, the exemplars of the old standard obsolete, and sometimes requires a costly reinvestment in new equipment. As a result, standard setting can temporarily limit the availability of products that consumers may desire or require, raising costs of those products.\textsuperscript{73}

Additionally, standard setting can limit innovation because, by its very nature, standard setting organizations chose only one or a few standards and exclude all others. This, in turn, limits consumer alternatives and may, in theory, result in the adoption of a less innovative standard. Thus, standardization can limit innovation when participants reject a new standard for an older, less innovative but entrenched standard, while also limiting the number of alternatives that consumers may chose from. This may have an overall negative impact on society and must be closely scrutinized to ensure that standardization is not actually stifling, rather than stimulating, innovation.

\textbf{IV. CONCLUSION:}

\textsuperscript{73} Balto, supra note 23, at 2.
Collaborative standard setting is pervasive in the modern economy and increasingly important to healthy competition in numerous industries. Across a broad spectrum of the economy, competing manufacturers confer with one another -- often with customers and suppliers included -- to establish standards relating to regulatory requirements, safety, interoperability interfaces and numerous other aspects of product design.\textsuperscript{74}

It is inescapable that standard setting organizations play a pivotal role and are necessary in several modern industries. However, as demonstrated above, and in particularly, by the Dell and Rambus cases, standard setting organizations can create serious anti-competitive and innovation problems. Even though antitrust regulation may disincentivize the creation of standard setting organizations, due the possibility of a participant’s patents rendered unenforceable for antitrust violations or patent misuse, the severity of and potential for anti-competitive behavior, combined with standard setting organizations’ capacity for stifling innovation, makes it imperative that these organizations be subject to the utmost antitrust scrutiny. This will

\textsuperscript{74} Taylor, supra note 8, at 547.
incentivize a wider range of disclosure and facilitate the standard setting process while ensuring that society is not harmed by the deadweight loss and consumer surplus shift created by monopolies and price fixing. In the end, if the organization is properly structured, operated and regulated, and if participants comply with the disclosure requirements, demonstrating a tendency for over-disclosure,

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75 Handler, supra note 65, at 192-94 (discussing monopoly overcharge, consumer surplus transfer and deadweight social loss).
76 In order for standard setting organizations to function efficiently, specific disclosure requirements are essential. See e.g. Taylor, supra note 8, at 551 (discussing problems associated with standard setting organizations that utilize ambiguous patent disclosure policies.)
77 Since standard setting organizations pose threats of price fixing, monopolization and exclusionary behavior, such organizations should be subject to regulation under the Sherman Act §§ 1 & 2, Clayton Act § 3 and the Federal Trade Commission Act § 5. Moreover, while standard setting organizations do not constitute a traditional joint business venture, the Federal Trade Commission and Department of Justice Guidelines for Collaboration Among Competitors and Joint Guidelines for Licensing of Intellectual Property may provide an invaluable starting point for the proper antitrust regulation of standard setting organizations. Weighing the procompetitive benefits standard setting organizations create against the anti-competitive concerns they raise, efficient federal and state regulation of such organizations can encourage innovation while simultaneously promoting standard setting participation.
society can reap the benefits of standard setting organizations without incurring the anticompetitive and anti-innovative injuries that they pose.